

FACILITIES CRITERIA (FC)

NAVY AND MARINE CORPS CHILD DEVELOPMENT CENTERS



APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

FACILITIES CRITERIA (FC)
NAVY AND MARINE CORPS
CHILD DEVELOPMENT CENTERS

Any copyrighted material included in this FC is identified at its point of use.
Use of the copyrighted material apart from this FC must have the permission of the
copyright holder.

U.S. ARMY CORPS OF ENGINEERS

NAVAL FACILITIES ENGINEERING COMMAND (Preparing Activity)

AIR FORCE CIVIL ENGINEER CENTER

Record of Changes (changes are indicated by \1\ ... /1/)

Change No.	Date	Location

This FC supersedes UFC 4-740-14, Design: Child Development Centers, dated 1 August 2002 and Final Draft UFC 4-740-14, Design: Child Development Centers, dated January 2009.

FOREWORD

Facilities Criteria (FC) provide functional requirements (i.e., defined by users and operational needs of a particular facility type) for specific DoD Component(s), and are intended for use with unified technical requirements published in DoD Unified Facilities Criteria (UFC). FC are applicable only to the DoD Component(s) indicated in the title, and do not represent unified DoD requirements. Differences in functional requirements between DoD Components may exist due to differences in policies and operational needs.

All construction outside of the United States is also governed by Status of Forces Agreements (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA.) Therefore, the acquisition team must ensure compliance with the most stringent of the UFC (replace w/ FC), the SOFA, the HNFA, and the BIA, as applicable.

Because FC are coordinated with unified DoD technical requirements, they form an element of the DoD UFC system applicable to specific facility types. The UFC system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applicable to the Military Departments, Defense Agencies, and the DoD Field Activities. The UFC System also includes technical requirements and functional requirements for specific facility types, both published as UFC documents and FC documents.

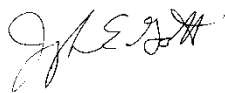
FC are living documents and will be periodically reviewed, updated, and made available to users as part of the Services' responsibility for providing criteria for military construction. Headquarters, U.S. Army Corps of Engineers (HQUSACE), Naval Facilities Engineering Command (NAVFAC), and the Air Force Civil Engineer Center (AFCEC) are responsible for administration of the UFC system. Defense agencies should contact the preparing service for document interpretation and improvements. Technical content is the responsibility of the cognizant DoD working group. Recommended changes with supporting rationale should be sent to the respective service proponent office by the following electronic form: [Criteria Change Request](#). The form is also accessible from the Internet site listed below.

FC are effective upon issuance and are distributed only in electronic media from the following source:

- Whole Building Design Guide web site <http://dod.wbdg.org/>.

Refer to UFC 1-200-01, *General Building Requirements*, for implementation of new issuances on projects.

AUTHORIZED BY:



JOSEPH E. GOTT, P.E.
Chief Engineer
Naval Facilities Engineering Command

FACILITIES CRITERIA (FC) REVISION SUMMARY SHEET

Document: FC 4-740-14N, Navy and Marine Corps Child Development Centers

Superseding: UFC 4-740-14, Design: Child Development Centers, dated 1 August 2002 and Final Draft UFC 4-740-14, Design: Child Development Centers, dated January 2009.

Description of Changes: This FC separates the consolidated Tri-Service version and replaces the Final Draft Child Development Centers UFC version used by the Navy, into a Navy-only FC version for Child Development Center criteria.

Reasons for Changes: This FC contains the criteria for determining the appropriate size and complexity of Navy and Marine Corps Child Development Centers. It also provides non-Government standard resources that provide guidance in the design of these facilities.

Impact: The following improvements should result from this revision:

- This FC updates and clarifies the basic requirements for Navy and Marine Corps child development centers. This FC will reduce the initial cost of design and reduce costs associated with redesign of facilities that do not meet minimum standards.
- The improved performance-based criteria and coordination with the Navy's model RFP should reduce design-build proposals. Responders will be able to apply industry best-practices and more creativity to their proposals to reduce costs while still meeting the minimum technical design and construction standards outlined in Chapters 3, 4 and 5.

Non-unification Issues: There are unification issues:

- Table 2-1: Due to operational differences there are different quantities and types of offices and other spaces within the CDC's.
- 2-4.2.2: Navy only provides Multipurpose Rooms when climatic conditions warrant.
- Table 4-1: USMC allows carpet in corridors for noise abatement.
- Table 4-8: Navy does not permit ice makers due to the choking hazards.

TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION	1
1-1 PURPOSE AND SCOPE	1
1-2 APPLICABILITY	1
1-3 GENERAL BUILDING REQUIREMENTS	1
1-4 REFERENCES	1
1-5 GLOSSARY	2
1-6 USERS OF THE FACILITY	2
1-6.1 Children.....	2
1-6.2 Facility Staff.....	2
1-6.3 Parents.....	2
1-7 REGULATORY AUTHORITIES	2
1-7.1 Military Authorities.....	2
1-7.2 Occupancy Classification.....	3
1-7.3 Certification.....	3
1-7.4 Additional Requirements.....	3
CHAPTER 2 PLANNING AND LAYOUT	5
2-1 SCOPE OF FACILITY	5
2-1.1 Functional Program Areas.....	5
2-2 FACILITY PLANNING	7
2-2.1 Facility Classification.....	7
2-2.2 Age Groups and Group Sizes.....	8
2-2.3 Operational Considerations.....	8
2-3 SITE PLANNING	9
2-3.1 Land Area Requirements.....	9
2-3.2 Site Selection.....	9
2-3.3 Site Layout.....	11
2-4 SPACE REQUIREMENTS	11
2-4.1 Introduction.....	11
2-4.2 Space Programs.....	11
2-4.3 Administrative Offices.....	16
2-4.4 Child Activity Rooms.....	17

2-5	ORGANIZATION AND LAYOUT.....	18
2-5.1	General Adjacencies.....	18
2-5.2	Non-standalone CDC External Adjacencies.	19
2-5.3	Child Activity Room Adjacencies.	19
2-6	ADDITIONS/ALTERATIONS/RENOVATIONS TO EXISTING FACILITIES.....	19
2-6.1	Program.....	20
2-6.2	Design.....	20
CHAPTER 3	GENERAL DESIGN CRITERIA.....	21
3-1	GENERAL.....	21
3-1.1	Authorized Building Program.	21
3-1.2	Accessibility.	21
3-2	STRUCTURAL FOUNDATION INSULATION.....	21
3-3	ARCHITECTURE.....	21
3-3.1	Stories.....	22
3-3.2	Exterior Design.	22
3-3.3	Interior Design.	24
3-4	SERVICES.....	28
3-4.1	Plumbing.....	28
3-4.2	Fire Protection and Life Safety.....	28
3-4.3	Electrical Design.	32
3-5	HVAC.....	33
3-5.1	General.....	33
3-5.2	Kitchen.....	34
3-5.3	Laundry.....	34
3-6	FURNISHINGS.....	34
3-6.1	General.....	34
3-6.2	Tables and Chairs.....	34
3-7	EXTERIOR SIGNAGE.....	34
3-8	SITE DESIGN.....	35
3-8.1	Grading and Drainage.	35
3-8.2	Walkways.....	35
3-8.3	Parking/Vehicular Circulation.....	36

3-8.4	Utilities.....	37
3-8.5	Radon.....	37
3-8.6	Perimeter Fencing.....	38
3-9	LANDSCAPING.....	38
3-9.1	Child Safety.....	38
3-9.2	Child Learning Opportunities.....	38
3-9.3	Durability.....	39
3-9.4	Irrigation.....	39
CHAPTER 4 SPECIFIC DESIGN CRITERIA.....		41
4-1	INTRODUCTION.....	41
4-1.1	Casework/Built-in Equipment.....	41
4-1.2	Furnishings, Fixtures, and Equipment (FF&E).....	41
4-2	ADMINISTRATIVE, STAFF SUPPORT, AND FACILITY SUPPORT.....	41
4-3	CHILD ACTIVITY AREAS.....	53
CHAPTER 5 OUTDOOR ACTIVITY AREAS.....		65
5-1	INTRODUCTION/PURPOSE.....	65
5-2	PLANNING CRITERIA.....	65
5-2.1	Size.....	65
5-2.2	Grade.....	65
5-2.3	Layout.....	65
5-3	GENERAL DESIGN CRITERIA.....	66
5-3.1	Accessibility.....	67
5-3.2	Exterior Storage.....	67
5-3.3	Fencing.....	68
5-3.4	Shade.....	69
5-3.5	Equipment Requirements.....	70
5-3.6	Surfaces.....	72
5-3.7	Plumbing.....	73
5-3.8	Electrical.....	74
5-4	AGE-SPECIFIC AREA DESIGN CRITERIA.....	74
5-4.1	Infant and Pre-toddler.....	74
5-4.2	Toddlers.....	75
5-4.3	Preschoolers/Pre-K/Kindergarten.....	76

APPENDIX A REFERENCES	79
APPENDIX B BEST PRACTICES	83
B-1 INTRODUCTION	83
B-2 DESIGNING FOR CHILDREN	83
B-2.1 Stages of Development.	83
B-2.2 Anthropometric Guidelines.....	84
B-2.3 Choking Hazards.	85
B-3 GENERAL DESIGN GUIDANCE	85
B-3.1 Space Attributes.	85
B-3.2 Exterior Design.	86
B-3.3 Interior Design.	87
B-3.4 Signage.....	87
B-3.5 Site Walkways.	87
B-3.6 Vehicular Circulation.....	87
B-3.7 Landscaping.	87
B-4 INDIVIDUAL ROOM DESIGN GUIDANCE	88
B-4.1 Entrance/Lobby/Reception.....	88
B-4.2 Child Activity Rooms.....	88
B-5 BUILDING SYSTEMS GUIDANCE	89
B-5.1 Fire Protection and Life Safety.....	89
B-5.2 Radon.	90
B-6 OUTDOOR ACTIVITY AREA	90
B-6.1 Play Areas and Equipment.	90
B-6.2 Safety Background.	91
APPENDIX C POISONOUS AND NON-POISONOUS PLANTS	93
APPENDIX D SAMPLE FURNISHINGS, FIXTURES AND EQUIPMENT LISTS	95
D-1 FF&E SAMPLE LISTS	95
APPENDIX E SAMPLE KITCHEN EQUIPMENT	101
E-1 KITCHEN EQUIPMENT LISTS BY FACILITY SIZE	101
E-1.1 Small CDC.	102
E-1.2 Medium CDC.	103
E-1.3 Large and Extra Large CDC.	105
APPENDIX F GLOSSARY	107

F-1	ACRONYMS AND ABBREVIATIONS.....	107
F-2	DEFINITION OF TERMS.....	110

FIGURES

FIGURE 2-1. FUNCTIONAL RELATIONSHIP BUBBLE DIAGRAM.....	18
FIGURE B-1. ANTHROPOMETRIC DIMENSIONS	85

TABLES

TABLE 2-1. PROGRAM AREAS.....	5
TABLE 2-2. CAREGIVER/CHILD RATIOS	8
TABLE 2-3. SAMPLE PROGRAM SPACE REQUIREMENTS FOR CORE ADMINISTRATION	13
TABLE 2-4. SAMPLE PROGRAM SPACE REQUIREMENTS FOR STAFF SUPPORT	14
TABLE 2-5. SAMPLE PROGRAM SPACE REQUIREMENTS FOR FACILITY SUPPORT.....	15
TABLE 2-6. CHILD ACTIVITY ROOM SPACE REQUIREMENTS.....	16
TABLE 2-7. CHILD ACTIVITY ROOM SPACE REQUIREMENT BREAKDOWN	17
TABLE 3-1. HARDWARE SCHEDULE	25
TABLE 4-1. ENTRANCE/LOBBY/CORRIDORS.....	41
TABLE 4-2. RECEPTION/WORK AREA.....	43
TABLE 4-3 ADMINISTRATIVE OFFICES	45
TABLE 4-4. BREAK/STAFF ROOM.....	46
TABLE 4-5. TRAINING ROOM.....	47
TABLE 4-6. CENTRAL STORAGE	48
TABLE 4-7. STAFF/PUBLIC TOILETS/JANITOR’S CLOSET.....	49
TABLE 4-8. KITCHEN	50
TABLE 4-9. LAUNDRY.....	52
TABLE 4-10. CHILD ACTIVITY ROOMS	53
TABLE 4-10.1. CAR TOILETS	57
TABLE 4-10.2. CAR DIAPER CHANGING AREA	58
TABLE 4-10.3. CAR ADULT SINK WITH COUNTER	59
TABLE 4-10.4. CHILD INTEREST CENTERS	60
TABLE 4-11. MULTIPURPOSE ROOM.....	61

TABLE 4-12. NURSING ROOM	63
TABLE 4-13 NURSES OFFICE	64
TABLE B-1. ANTHROPOMETRICAL DATA.....	84
TABLE C-1. COMMON POISONOUS PLANTS.....	93
TABLE C-2. COMMON NON-POISONOUS PLANTS.....	94
TABLE D-1. SAMPLE FURNISHINGS AND EQUIPMENT	95

CHAPTER 1 INTRODUCTION

1-1 PURPOSE AND SCOPE.

FC 4-740-14N provides requirements for evaluating and planning the site, determining programming requirements, establishing space distribution needs, determining building size, and designing all outdoor and indoor spaces for Navy and Marine Corps Child Development Center (CDC) facilities to support the child development program. Unless specifically indicated for only one of the 2 services, requirements in this FC apply to facilities for both Navy and Marine Corps. The information in this FC applies to the design of all new construction projects as well as renovation projects. Renovation projects should update existing facilities to meet the guidance and criteria within budgetary constraints. Further, this FC serves as an ongoing program management tool within the Navy and Marine Corps child development programs. This FC is not intended as a substitution during design for thorough review by individual Child Development Program Managers in each of the Services.

Chapter 1 provides an overview of the FC document, an overview of the facility, and the applicable regulatory authorities. Chapters 2 and 3 provide planning and design criteria that apply to the facility as a whole. Chapters 4 and 5 provide design criteria for the individual facility and site spaces and establish the baseline levels of features and finishes to be provided in those spaces. This FC also identifies desired or allowable design features. The objective of this FC is to promote centers that are child-oriented, developmentally appropriate, environmentally sensitive, safe, accessible and functional.

1-2 APPLICABILITY.

This FC applies to all military service elements and contractors involved in the planning, design, and construction of Navy and Marine Corps child development centers. Note: where one Service's criteria vary from the other Services' criteria, it is noted in the text as a **Service Exception**. If a Navy exception is noted, it does not apply to the Marine Corps unless specifically noted. Joint Bases should follow the Service criteria for the Supporting Component.

1-3 GENERAL BUILDING REQUIREMENTS.

Comply with UFC 1-200-01, *General Building Requirements*. UFC 1-200-01 provides applicability of model building codes and government unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, high performance and sustainability requirements, and safety. Use this FC in addition to UFC 1-200-01 and the UFCs and government criteria referenced therein.

1-4 REFERENCES.

Appendix A contains a list of references used in this document. The publication date of the code or standard is not included in this document. In general, the latest available issuance of the reference is used.

1-5 GLOSSARY.

Appendix F contains acronyms, abbreviations, and terms.

1-6 USERS OF THE FACILITY.

The primary users of CDCs are as follows:

1-6.1 Children.

- Infants (6 weeks-12 months)
- Pre-toddlers (12 months-24 months)
- Toddlers (24 months-36 months)
- Preschool/Pre-K/Kindergarten Age (3-5 years)

1-6.2 Facility Staff.

- Program Administrators/ Directors
- Assistant Directors
- Training and Curriculum Specialists
- Group Leaders/Caregivers
- Family Child Care Director (USMC)/Child Development Home Directors (Navy)
- Receptionist or Operations Clerks/U.S. Department of Agriculture (USDA) Clerks/Monitors
- Cook and Food Service Staff
- Custodial Staff

1-6.3 Parents.

1-7 REGULATORY AUTHORITIES.

See Chapter 3, “General Design Criteria”, for references to the governing building and construction codes and statutes. The program regulatory authorities are included below.

1-7.1 Military Authorities.

The comprehensive authorities having jurisdiction for CDCs are the following:

1-7.1.1 Navy.

The following authorities must approve the acquisition methodology, the design team composition, site selection, facility requirements, the DD Form 1391, concept development, and the final design-build request for proposal (RFP) or final design:

- Commander of Naval Installations Command (CNIC) N926 Child and Youth Programs, and N944 Fleet and Family Readiness, Integrity Drive, Millington, TN 38055-6560.
- NAVFAC FAC/FEC

Planners must contact N926 and N944 during planning development and prior to final signature of the DD Form 1391.

1-7.1.2 Marine Corps.

The following authorities must approve the acquisition methodology, the design team composition, site selection, facility requirements, the DD Form 1391, concept development, and the final DB RFP or final design:

- HQMC, Marine Corps Installations Command (GF-4)
- HQMC, Marine and Family Programs Division (MFY-3)
- HQMC, Semper Fit and Exchange Services Division (MRD)

1-7.2 Occupancy Classification.

CDCs are classified as Day-Care Occupancy when applying NFPA 101, *Life Safety Code*, and I-4 when applying the *International Building Code* (IBC).

1-7.3 Certification.

The CDC must be certified by DoD and accredited by an external accrediting agency.

1-7.4 Additional Requirements.

See Chapter 5, “General Design Requirements” for additional certification requirements on the design of the outdoor activity area and the selection and installation of playground equipment.

This Page Intentionally Left Blank

CHAPTER 2 PLANNING AND LAYOUT

2-1 SCOPE OF FACILITY.

The CDC accommodates a Department of Defense (DoD) child care program per Public Law 104-106, Section 568 of Title 10, United States Code, and Department of Defense Instruction (DoDI) 6060.2, *Child Development Programs*. The MCCA of 1989 (Pub.L.101-89) was recodified as the Military Family Act and Military Child Care Act, February 10, 1996.

2-1.1 Functional Program Areas.

Table 2-1 lists and describes the CDC functional program areas. They are broken down into four categories: core administration, staff support, facility support, and child activity areas.

Table 2-1. Program Areas

Functional Program Area	Description
Core Administration	
Entrance/Lobby	Includes vestibule, circulation from the vestibule to the reception desk, the circulation in front of the reception desk, and areas dedicated to waiting.
Public/Staff Toilet	ABA-compliant.
Reception/Work Area	Accommodates staff workers behind the reception counter and any circulation to adjacent office spaces and the isolation area, if applicable. Includes office equipment general work space.
Administration Offices	The required offices will vary both by Service and Installation. Refer to Chapter 2, "Administrative Offices", for Service contacts and additional guidance. Include associated storage.
Director's	Work, securable storage and conference space for the CDC director.
Assistant Director	Workspace for an assistant director; not included for every Service or facility.
Nurses Office	Marine Corps -only space. Provides a private room to isolate a sick child from the rest of the children until a parent can pick him or her up.
Training and Curriculum Specialist	Workspace for a specialist, space for staff training, and file storage. May be combined with other spaces.
Family Child Care (FCC)	USMC program. Workspace for program staff (one staff per 15 FCC providers, i.e., licensed or in the process of becoming licensed), one clerical, and file storage. May require additional space for an FCC lending program. May be located in the CDC or combined with other spaces.

Table 2-1. Program Areas

Functional Program Area	Description
Child Development Home (CDH)	Navy program. Workspace for program staff (one staff per 30 CDH providers, i.e., licensed or in the process of becoming licensed), one clerical, one resource, one referral (as required), and file storage. May require additional space for a CDH lending program. Not included for every facility.
Resource and Referral	Workspace with securable storage. May be located in the CDC or combined with other spaces.
Staff Support	
Break/Staff Room	Includes counter/cabinet space for microwave and small appliances, sink and refrigerator; tables and chairs and soft seating; and individual lockable storage, if applicable.
Training	Space to facilitate staff training. Space may accommodate computers for TACS/T&C's and staff to facilitate training/distant learning. Provide shelving or storage for resources and training supplies. Trainer may be co-located in training room or in separate office.
Central Storage	Storage of both bulk and individual items used throughout the facility.
Staff/Public Toilet	ABA-compliant, distributed throughout facility.
Facility Support	
Kitchen	Accommodates all food preparation, dishwashing, cart storage, dry goods storage, coolers and freezers, and cook work stations.
Janitorial	Accommodates janitorial supplies, equipment, and mop sink. Large and Extra Large facilities may have more than one room.
Laundry	Accommodates washers and dryers, a sink, work surface for folding, storage cabinet for detergents, and space for laundry carts or baskets.
Security and Monitoring Systems	Accommodates closed circuit TV video equipment, intrusion detection system, access control system, and exit notification system
Other Facility Support	Includes building circulation, construction, mechanical rooms, and electrical rooms (see Chapter 4 for more information). Generally calculated at a percentage of total building area, ranging from 25 to 30 percent.
Child Activity Areas	
Child Activity Rooms (CAR)	Accommodates developmental and routine activities, children's displays, eating, and all other child care activities in a self-contained environment. Each room accommodates two ratio groups, and includes storage and toileting areas.
Infants and Pre-toddlers	Accommodates two groups of infants
Toddlers and Preschoolers	Accommodates two groups of toddlers or one group of Preschoolers
Preschoolers/Pre-K/Kindergarten	Accommodates two groups of Preschoolers/Pre-K/K
Nursing Space	Accommodates mothers in a breastfeeding friendly environment.

Table 2-1. Program Areas

Functional Program Area	Description
Multipurpose room/Active Play	Optional. Service contacts provided in Chapter 1, Regulatory Authorities, must provide approval for inclusion of this space. Space to accommodate children for large group activities, wheel toy play, exercise, group games, or indoor play. This room may also support other activities such as parenting classes and staff training.
Outdoor Activity Areas	Supervised outdoor areas with direct access from the CAR. Outdoor activity play areas serve as extensions of classroom space and must be provided to support programming. Playground to be divided into individual separate areas to accommodate the different age groups occupying the facility. Playground equipment is arranged to ensure that children are visible and supervision is maintained.
Infants and Pre-toddlers	Separate, fenced areas with visual and audible connections to the other outdoor activity areas and limited play equipment. Infant and pretoddler areas may be combined or may be separate if required to maintain direct access from the CARs.
Toddlers	Separate, fenced area with visual and audible connections to the other outdoor activity areas and additional play equipment.
Preschool/Pre-K/Kindergarten	Separate, larger fenced area with visual and audible connections to the other outdoor activity areas, additional play equipment, and more structured activity areas.

2-2 FACILITY PLANNING.

Evaluate the total childcare requirements for the populations and missions of the individual Installation. Plan and budget for durable materials and details. A CDC is used intensely, and the design must be sensitive to the life cycle cost of materials.

2-2.1 Facility Classification.

Once the demand has been determined, classify the facility size as follows:

- Small. Less than 100 children
- Medium. 100 to 200 children
- Large. 201 to 300 children
- Extra Large. 301 children and up

No CDC will accommodate less than 48 children without approval from the Service contacts identified in Chapter 1, “Regulatory Authorities”.

2-2.2 Age Groups and Group Sizes.

Children are grouped according to age and different age group sizes vary. Group sizes are used to determine the number and type of Child Activity Rooms (CARs) in the CDC.

2-2.2.1 Ages Accepted.

Child Development Programs (CDP) according to DoDI 6060.02 states CDP is for children birth through 12 years; however, this FC addresses design of Child Development Centers for children from six weeks through five years of age.

2-2.2.2 Group Size and Caregiver-Child Ratio.

Table 2-2 provides the age groups, ratios of caregiver and children, and the group limits. These ratios exceed NFPA and require additional life safety features – see Chapter 3 Section titled “Fire Protection and Life Safety” for these additional requirements. In any individual center, actual age ranges between groups may overlap. In some centers, children may be grouped in mixed-age activity rooms. In these cases, use the design criteria for the youngest children in the group. Appendix B provides more information on the age groups and their developmental needs.

Table 2-2. Caregiver/Child Ratios

Group	Age Range	Adult/Child Ratio	Group Limit*
Infants	6 wks. to 12 mos.	1 to 4	8
Pre-Toddlers	12 mos. to 24 mos.	1 to 5	10
Toddlers	24 mos. to 36 mos.	1 to 7	14
Pre School/Pre-K/K Age	3 yrs. to 5 yrs.	1 to 12	24

* The group limit is the limit for children only.

2-2.3 Operational Considerations.

Some other programs accept children whose parents are not at home before and after school hours or who wish to place children in a care situation between school and family-gathering time. However, before and after school care programs usually occur somewhere other than a Child Development Center for DoD facilities. The three basic scheduling patterns are as follows:

- Full Day. Children attending for a full day, for example, as many as 12 hours.
- Part Day. Children attending part of a day, typically a half-day or less on a regular, scheduled basis.
- Hourly. Children attending for one hour or more on an infrequent or unscheduled basis.

2-3 SITE PLANNING.

2-3.1 Land Area Requirements.

Provide land area requirements as noted below. Ensure that the required antiterrorism set-back distances can be accommodated with any site selected. See UFC 2-000-05N, (P-80) *Facility Planning Criteria for Navy/Marine Corps Shore Installations* for land planning requirements.

2-3.2 Site Selection.

Select a site that meets the following criteria.

2-3.2.1 Noise Requirements.

Do not locate CDC's near airfields, industrial areas, or other areas with high noise levels. If noise levels at the CDC site exceed 70 dBA continuous, or 80 dBA intermittent, then comply with the acoustical criteria provided in Chapter 3, Exterior Design.

2-3.2.2 Natural Light.

Do not use locations without access to natural light for new CDCs.

2-3.2.3 Natural Environment.

Select a site with as many natural amenities as possible for a beneficial learning environment. These include the following: nontoxic plants and trees; non-dangerous animals; earth forms; rolling terrain; and natural protection from the sun, wind and rain. Develop a site plan that makes the most of the site's existing natural resources. Where possible, conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.

2-3.2.4 Site Elevation.

Do not select a site that is near the installation's lowest elevation. Do not select a site near marsh areas, as mosquitos, flies, and other insects should be separated from CDC Outdoor Play environments.

2-3.2.5 Visibility.

Locate CDCs in areas of high visibility to deter crime and vandalism, e.g., locate amidst community facilities, housing, and parks.

2-3.2.6 Hazards.

Do not locate CDCs near the following hazards or nuisances:

- Fuel or other HAZMAT storage buildings
- Service stations

- Maintenance shops, including woodworking and painting areas
- Laundry facilities
- Large kitchen/food preparation facilities
- Aircraft runways
- Railroads
- Security areas
- Any facility producing odors, smoke, dust or pollution
- Unsafe buildings
- Explosives
- Radiation
- Utility substations and overhead power lines

2-3.2.7 Vehicular Traffic.

Avoid locations near busy streets and intersections. If this is not possible, provide mitigation measures, such as bollards, to increase safety at pedestrian areas and playgrounds.

Prepare a site traffic impact study to determine the traffic patterns and the peak demand for parking. Large and Extra Large CDC's will have a significant impact on peak traffic patterns. The circulation and parking demand includes the turnover for the hourly care program and the part-day care program. See Chapter 3, "Parking/Vehicular Circulation", for specific requirements.

2-3.2.8 Soil Testing.

Before selecting the site for the center and its playground, test the soil for the presence of dangerous contaminants. Also, check previous uses of the site. Investigate proposed playground locations adjacent to old structures, which may be painted with lead paint or contain other hazards. Check with the Environmental Installation Restoration Program and the Underground Storage Tank Program. Continue to monitor the site, at the direction of the environmental safety staff, to ensure that it does not become subsequently contaminated, especially by lead. This is particularly a concern in urban areas or where there is a heavy concentration of automobiles or industrial facilities.

2-3.2.9 Domestic Water Testing.

Test domestic water for levels of lead both during the site selection process and again after project completion, and mitigate as necessary.

2-3.3 Site Layout.

2-3.3.1 Internal Traffic Flow.

Site the CDC so the building is clearly visible to cars and pedestrians coming to the facility. Separate service and delivery access from the public and children's areas. Eliminate the potential for conflict between moving vehicles and children. See Chapter 3, "Exit Requirements", for additional requirements.

2-3.3.2 Outdoor Areas.

Design the outdoor activity area to be directly accessible from the CARs. When planning the outdoor activity area, consider prevailing weather patterns that may affect children's comfort. For example, locate, as necessary in some geographical areas, the outdoor areas on the south side of the building where they will be protected from northerly winds. See Chapter 5 for more information.

2-4 SPACE REQUIREMENTS.

2-4.1 Introduction.

This FC states area requirements in terms of Net Floor Area (NFA) or Gross Floor Area (GFA). NFA is the net usable area of spaces, excluding the area required for building construction and mechanical and electrical equipment. GFA is the total building footprint measured to the exterior side of the exterior wall. Space requirements for individual spaces are expressed as NFA. GFA is determined, where appropriate, by adding to NFA totals an estimated area for building construction (including wall thickness, ventilation space, etc.) and mechanical/electrical equipment rooms.

2-4.2 Space Programs.

Sample space programs for the four CDC size classifications are illustrated in Tables 2-3 to 2-6. They are grouped according to the four functional program areas.

For Navy and USMC CDCs, an interactive spreadsheet is available to help develop a space program for a specific project. It is completed by first selecting the appropriate facility size classification. This generates a partial space program per Tables 2-3 through 2-6 of this FC. The programmer then must select the facility options and enter the quantity of age-specific CARs. The Child Development Center Space Program spreadsheet is available as a downloadable Microsoft® Excel® file from the Whole Building Design Guide Website (www.wbdg.org) under the NAVFAC Design-Build Master page, Design Guidance, located at http://www.wbdg.org/ndbm/design_guidance.php.

2-4.2.1 Core Administration, Staff Support and Facility Support.

The space programs illustrated in Tables 2-3 to 2-5 are purely sample programs and are not intended to establish fixed design programs for CDC planning teams. Determine the actual total space program for CDC Core Administrative functions, Staff

Support functions, and Facility Support functions by considering the anticipated number of children accommodated by the facility and the specific space and design criteria provided in this FC.

2-4.2.2 Child Activity and Multipurpose Rooms.

- The space requirements for CARs in Table 2-6 are mandatory and must not be changed. Determine the total number of activity rooms for specific age groups based on the number and ages of children to be accommodated per Chapter 2, "Facility Planning".
- Provide a Nursing Room in close proximity to the Infant/Pre-toddler wing of the facility and visible to staff for monitoring.
- Verify the need for a multipurpose room with the Service contacts provided in Chapter 1, Regulatory Authorities. **Service Exception: Navy** contacts will determine when climatic conditions warrant the requirement for a multi-purpose room. As a general rule, only those Navy bases with extreme (heat, cold, rain) climates should consider programming a Multi-purpose room.

Table 2-3. Sample Program Space Requirements for Core Administration

Functional Spaces	Standard CDC Areas			
	Small	Medium	Large	Extra Large
	ft. ² (m ²)	ft. ² (m ²)	ft. ² (m ²)	ft. ² (m ²)
Entrance/Lobby. Includes vestibule, circulation space from the vestibule to the reception desk, the circulation space in front of the reception desk, and all areas dedicated to waiting.	120 (11.2)	180 (16.7)	400 (37.2)	450 (41.8)
Reception/Work Area. Generally includes space required for staff workers behind the reception counter and any circulation space leading to adjacent office space, to the isolation room and to the toilet. It does not include any space for general public. Includes the net space required to enclose any office equipment such as printers, faxes, copiers, computers, and video recording equipment, if any. It also includes general office work space (work tables or work surfaces).	280 (26.0)	380 (35.3)	520 (48.3)	520 (48.3)
Administration Offices. The required offices will vary both by Service and by Installation. Refer to Chapter 2, "Administrative Offices", for Service contact names and more information. These ranges are rough estimates.	400 to 600 (37.2 to 55.7)	450 to 650 (41.8 to 60.4)	550 to 750 (51.1 to 69.7)	800 to 1,000 (74.3 to 92.9)
Nurses Office. Marine Corps- only area for isolating and observing a sick child.	80 (7.4)	80 (7.4)	160 (14.9)	160 (14.9)
Nursing Room/Space. Area for mothers (1-2) to have privacy in breast-feeding friendly environment. Includes space for soft seating, sinks, table, counter and diaper changing table. Extra Large requires 2 rooms.	60 (5.6)	60 (5.6)	60 (5.6)	100 (9.3)

Table 2-4. Sample Program Space Requirements for Staff Support

Functional Spaces	Standard CDC Areas			
	Small	Medium	Large	Extra Large
	ft. ² (m ²)	ft. ² (m ²)	ft. ² (m ²)	ft. ² (m ²)
Break/Staff Room. Includes space for counter/cabinet space for microwave, sink and refrigerator, space for tables and chairs for staff. Provide closet or lockers for coats and jackets.	180 (16.7)	220 (20.4)	300 (27.9)	380 (35.3)
Training Room. Includes space for a conference room, resource bookshelves, and 2 workstations for computer-based training. Sized to accommodate 30% of staff.	280 (26.0)	380 (35.3)	480 (44.6)	580 (53.9)
Central Storage. Generally includes any space required for storage of both bulk and individual items for use within the CARs and in the office area. Includes space to store any equipment such as Audio/Visual equipment that is rotated in the CARs or used in training.	100 (9.3)	130 (12.1)	150 (13.9)	180 (16.7)
Staff/Public Toilet. This area must be sized based upon building code requirements (occupant load/occupancy) and must be ABA compliant.	120 (11.2)	200 (18.6)	280 (26.0)	360 (33.4)

Table 2-5. Sample Program Space Requirements for Facility Support

Functional Spaces	Standard CDC Areas			
	Small	Medium	Large	Extra Large
	ft. ² (m ²)	ft. ² (m ²)	ft. ² (m ²)	ft. ² (m ²)
Kitchen. Includes space for all food preparation and dishwashing, as well as cart storage, dry goods storage, coolers and freezers, and work station for cooks. <u>Note:</u> areas include walk-in freezers and refrigerators for medium CDC's and larger, sized for weekly deliveries	700 (65.0)	1,000 (92.9)	1200 (111.5)	1400 (130.1)
Janitorial. Includes all floor space required for storing janitorial supplies and equipment. Includes a mop sink. Large and Extra Large facilities may have more than one room	60 (5.6)	60 (5.6)	80 (7.4)	80 (7.4)
Bye-Bye Buggy Storage. Alcoves in the vicinity of the infants and pre-toddlers rooms for storage of bye-bye buggies.	25 (2.3)	50 (4.7)	75 (7.0)	100 (9.3)
Video Surveillance Room. Includes video equipment and electronic storage components for surveillance system.	60 (5.6)	60 (5.6)	60 (5.6)	60 (5.6)
Laundry. Includes area required for washers and dryers, one dryer more than the number of washers and a sink and work surface for folding.	80 (7.4)	110 (10.2)	130 (12.1)	220 (20.4)
Other Facility Support. Generally calculated at a percentage of total building area, this includes building construction, circulation/corridors, public restrooms, mechanical rooms, and electrical rooms (see Chapter 3, "Services", for more information). A rough percentage of total building area for these items would range from 25 to 30 percent; however, these spaces are inherently variable as a result of installation unique requirements. Consult with mechanical engineer and CDC Program Manager when programming these spaces.				

Table 2-6. Child Activity Room Space Requirements

Age Group(s) Accommodated	Room Area	
	m ²	ft. ²
Infants and Pre-toddlers. This room can accommodate two groups of infants (eight children total) or two groups of pre-toddlers (10 children total).	78.97	850
Toddlers and Preschoolers. This room can accommodate two groups of toddlers (14 children total) or one group of Preschoolers (12 children total).	88.3	950
Preschoolers/Pre-K/Kindergarten. This room can accommodate two groups of Preschoolers/Pre-K/K (24 children total).	133.8	1440
Multi-purpose Room (Optional) for Small and Medium CDC's. Space to accommodate children for large group activities, wheel toy play, exercise, group games, or indoor play. Space includes storage and a toilet. This room may also support other activities such as parenting classes and staff training.	111.5	1,200
Multi-purpose Room (Optional) for Large and Extra-Large CDC's.	204.4	2,200
Note: While the rooms are set-up to accommodate more than one age group in terms of space and facilities, usually two age groups will never share a room. See Chapter 2, "Child Activity Rooms" for more detailed breakdown of Child Activity Room spaces.		

2-4.3 Administrative Offices.

2-4.3.1 Quantity and Type.

The quantity and type of administrative offices are Service and facility specific. At a minimum, two offices are provided: One for the CDC director and one shared office. The shared office would accommodate the training and curriculum specialist and the FCC/CDH program (see Chapter 2, "Functional Program Areas", for a description of these programs). Larger facilities and programs will provide separate and even multiple training/curriculum and FCC/CDH offices, as well as an assistant director's office.

Additional design criteria for these offices are provided in Chapter 4. Do not program CDC office space types and sizes without first consulting with the Service contacts identified in Chapter 1, "Regulatory Authorities".

2-4.3.2 Typical Sizes.

- Director's Office. Small at 100 ft.² (9.3 m²) minimum; medium at 120 ft.² (11.2 m²); and large and extra large at 140 ft.² (13 m²).
- Training and Curriculum Specialist. One to two offices at 100 ft.² (9.3 m²) minimum.
- FCC/CDH Office. Variable by program and size.
- Resource and Referral Office. If provided as a separate office, 100 ft.² (9.3 m²) minimum.

2-4.4 Child Activity Rooms.

Each CAR includes required subspaces. These subspaces and their space requirements are identified in Table 2-7. One of these subspaces is uninterrupted activity space (UAS). UAS is defined as space used exclusively for activity, excluding diaper changing, food preparation, toilets, storage areas, installed millwork, door swings, and dedicated circulation space. Dedicated circulation space is built into the area for each of the subspaces. Sizes shown are net areas.

Table 2-7. Child Activity Room Space Requirement Breakdown

Age Group(s) Accommodated	Room Area	
	m ²	ft. ²
Infants and Pre-toddlers. This room can accommodate two groups of infants (eight children total) or two groups of pre-toddlers (10 children total).	78.97	850
Uninterrupted activity space	48.31	520
One child toilet	2.79	30
Children's hand washing station	1.39	15
Adult sink with counter	4.65	50
Diapering station, including sink and storage	4.65	50
Crib area	9.29	100
Cubby storage	2.32	25
General storage closet	5.57	60
Toddlers and Preschoolers. This room can accommodate two groups of toddlers (14 children total) or one group of Preschoolers (12 children total).	88.3	950
Uninterrupted activity space	58.53	630
Two child toilets	4.65	50
Two children's hand washing stations	2.79	30
Children's art sink	1.39	15
Adult sink with counter	4.65	50
Diapering station, including sink and storage	4.65	50
Cubby storage	6.04	65
General storage closet	5.57	60
Preschoolers/Pre-Kindergarten/Kindergarten. This room can accommodate two groups of Preschoolers/Pre-K/K (24 children total).	133.8	1,440
Uninterrupted activity space	100.3	1,080
Two toilets	4.65	50
Two children's hand washing stations	2.79	30
Children's art sink	1.39	15
Adult sink with counter	4.65	50
Diapering station, including sink and storage	4.65	50
Cubby storage	9.75	105
General storage closet	5.57	60

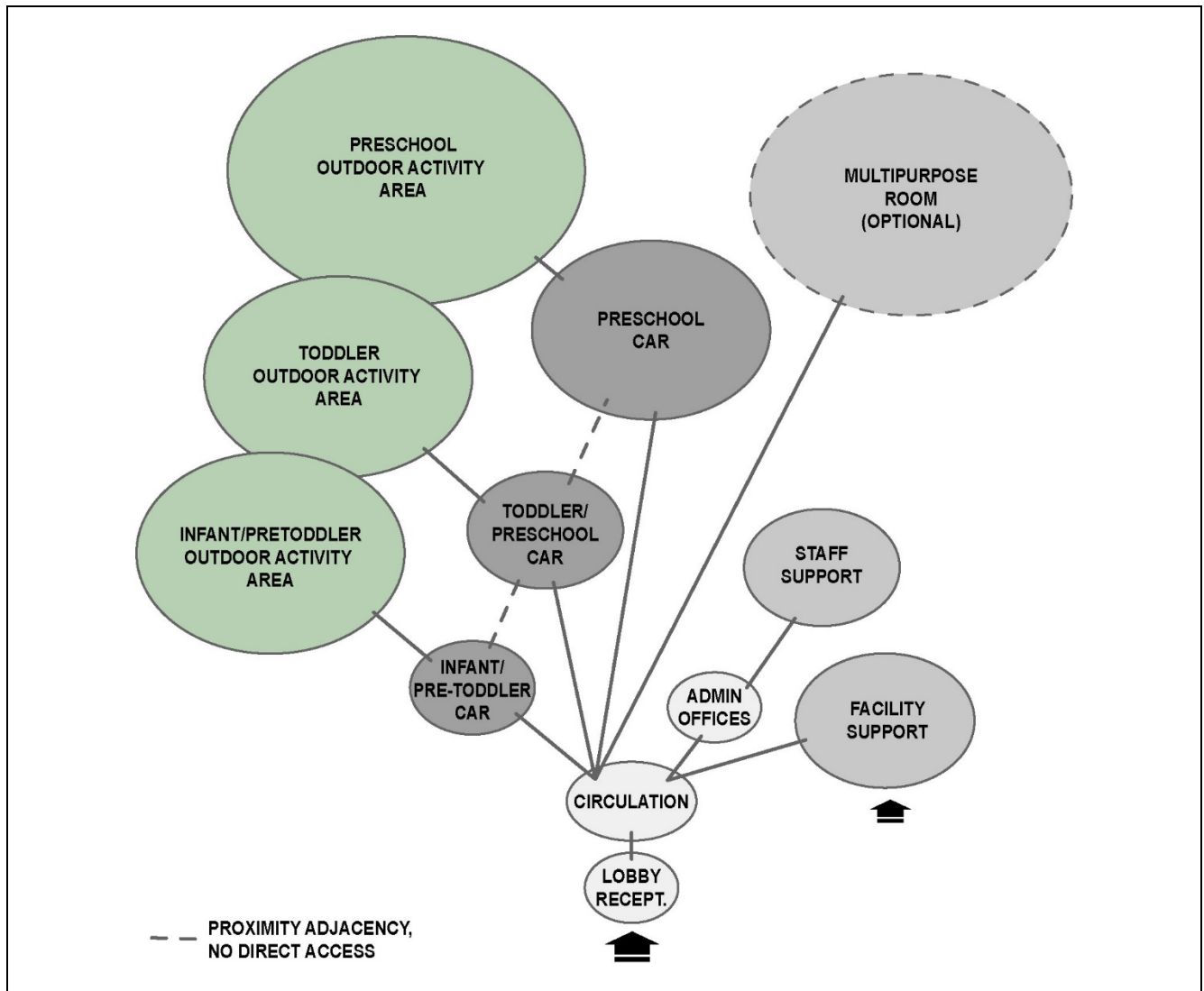
2-5 ORGANIZATION AND LAYOUT.

2-5.1 General Adjacencies.

2-5.1.1 Bubble diagram.

Figure 2-1, Functional Relationship Bubble Diagram, provides the general required adjacencies. The multipurpose room is optional and will only be provided at the discretion of the contacts provided in Chapter 1, Regulatory Authorities.

Figure 2-1. Functional Relationship Bubble Diagram



2-5.1.2 Noise Level Zoning.

Zone the building in terms of noise levels so that activity rooms and/or spaces are grouped together and separated by distance and/or barriers from quiet rooms and/or spaces.

2-5.2 Non-standalone CDC External Adjacencies.

Locate CDCs on a first floor, at-grade level permitting exit discharge directly outside the building. CDCs are not permitted in basements. CDCs must not be located in a mixed occupancy with high hazard or storage occupancies. In any permitted mixed occupancy, CDCs must be separated from other occupancies by a minimum of 1-hour rated construction. In mixed occupancies, the CDC and CDC outdoor areas must be separated from the other occupants; no access is allowed from upper fire exits or through the space to others' spaces.

Site selection must be approved prior to submission of DD Form 1391 by the contacts identified in Chapter 1, "Regulatory Authorities".

2-5.3 Child Activity Room Adjacencies.

2-5.3.1 Building and Site Adjacencies.

Organize and group CARs by age group (infant, pre-toddler, toddler, and preschool/Pre-K/K). Arrange age groups nearest the next age group to simplify and possibly consolidate playground areas. In small centers, design to allow for future expansion and addition of CARs.

Locate CARs along the exterior perimeter of the building to provide direct egress from each activity room to an age-appropriate playground and to maximize natural light admission. Provide direct access to the central circulation system and locate close to common use spaces. Locate the infant/pre-toddler rooms closest to the reception/lobby area because the child is usually carried to the room, along with diaper bags and other supplies.

2-5.3.2 Internal Adjacencies.

Internal room adjacencies are driven by the following key factors:

- **Visibility.** Do not create blind spots within the room. The caregivers should be able to see all areas of the room. Toilets positioned to provide semi-privacy from corridor and entry to CAR.
- **Sanitation.** Physically separate the adult sink and counter (where food preparation takes place) from the child hand washing/toilets and diaper changing.

2-6 ADDITIONS/ALTERATIONS/RENOVATIONS TO EXISTING FACILITIES.

Modernize existing facilities according to the design criteria established in this FC. The objective of all modernization projects is to meet new construction standards to the maximum extent possible within the programmed criteria.

2-6.1 Program.

For CDCs that will be located in existing, modernized facilities, the CAR size and distribution must follow the criteria given in Chapter 2, “Space Requirements”, and Chapter 4. Adapt the standard CDC activity areas to accommodate the existing structure. However, send all proposed modifications to the standard criteria to the contacts defined in Chapter 1, Regulatory Authorities.

2-6.2 Design.

When modifying an existing building, analyze its potential with regard to location, site services, architecture, structure, internal environmental systems, and functional adaptability. Enhance its architectural character in accordance with the local base architectural compatibility standards.

CHAPTER 3 GENERAL DESIGN CRITERIA

3-1 GENERAL.

UFC 1-200-01 provides applicability of model building codes and government criteria. UFC 1-200-01 identifies, through references, key unified facility criteria and requirements including accessibility, antiterrorism, security, sustainability, safety, discipline specific, and building systems. The facility-specific design requirements in this FC are to be used in addition to or to modify UFC 1-200-01 and the referenced UFCs and government criteria.

3-1.1 Authorized Building Program.

A DD1391 funding document is developed for all new construction projects which establishes the project requirements and authorized building size. The designer can use the functional diagrams contained herein to create the logical flow and individual space allocations for approved functions within the facility, however the design must not exceed the square footage allowances of the DD1391 or add functions in the facility if the functions are not authorized in the validated DD1391.

3-1.2 Accessibility.

The specifications in DoD, "ABA (Architectural Barriers Act) Accessibility Standard" contain alternate specifications based on children's dimensions and anthropometrics for ages 3 and up (preschool age). This FC contains alternate specifications for infants, pre-toddlers, and toddlers for drinking fountains/bubblers, water closets, toilet stalls, lavatories, sinks, and fixed or built-in seating and tables. All spaces, including toilets for preschool age and older, janitor's closet, and storage rooms must be ABA compliant. Also note the following guidelines for children for the purpose of the CDC facility design:

- Infants, pre-toddlers, and toddlers are not considered to be self-mobile wheelchair users; they are assisted and transferred by caregivers.
- Preschool-age children are considered to be self-mobile wheelchair users.

3-2 STRUCTURAL FOUNDATION INSULATION.

In addition to the criteria established in UFC 1-200-01, the following requirements are specific to CDC's. Since children spend a great deal of time on the floor, both temperature control and avoidance of drafts are very important. Maximize insulation of floors, including perimeter insulation of floor slabs, as required by project location.

3-3 ARCHITECTURE.

Refer to UFC 1-200-01 and comply with stated and cross referenced requirements for Architecture. Also comply with the following CDC- specific requirements.

3-3.1 Stories.

Unless approved by the Service regulatory authorities, newly constructed CDCs must be single-story structures.

3-3.2 Exterior Design.

3-3.2.1 Architectural Style and Scale.

Design CDCs to reflect a residential, non-institutional character to meet installation Architectural standards. For example, small-scale finish materials, such as bricks, are preferable to large pre-cast panels. The dimension of brick is more congruent with the size of a child and his or her home experience. Minimize the use of irregular geometry in the overall building design that results in any wall angle other than 90° in the offices, CARs, or service areas.

For new CDCs, contain the facility in one building. For annexes to existing buildings, they may be joined by an enclosed and covered walkway.

3-3.2.2 Entrance.

The perimeter of the building and outdoor activity areas must have only one primary means of public access and egress. Control all other service and emergency egress points, with access limited to authorized individuals. Design the entry approach to be visible by inside staff. Incorporate a point of reference or landmark that serves as a welcome and a transition. Visually separate the primary entrance from other entrances and service areas. If budget allows, provide a covered main entry that connects to a covered walkway to short-term parking to protect arriving children and parents from inclement weather.

In cold climates, provide a canopy or recess at required egress doors to ensure that doors can completely open without obstruction from snow and ice.

3-3.2.3 Roof.

The preferred roof is a gable or hip with minimal level changes or projections. Roof overhangs assist with reducing glare in CARs and should be coordinated with shade structures in the outdoor activity areas. See Chapter 5, "Shade", for more information on outdoor activity area shade structures.

3-3.2.4 Windows and Doors.

Windows and doors must replicate a residential style and scale. Locate windows so that children have visual access to the outside. Locate vision panels in doors so that small children at floor level can be seen and potential injury avoided. Recess or locate casement and other projecting types of windows to preclude dangerous protrusions at child and adult heights. For warm climate locations, give due diligence to material and color selection for exterior windows and doors that children may touch.

Natural lighting is essential in CDCs. Provide throughout to the highest degree possible. If budget permits, provide natural lighting coming from multiple directions.

3-3.2.4.1 General Window Criteria.

Construct, adapt or adjust all windows in areas used by children under 5 years of age to limit the exit opening accessible to children to less than 3.5 in. (90 mm), or be otherwise protected by guards that do not block outdoor light. Screen all openings used for ventilation. Use insulated glass for exterior window glazing. Provide light control and energy conservation features on all exterior windows, either by exterior or interior methods. In new construction, include exterior overhangs, low E-type glass, or both.

For exterior window sills accessible to children, avoid sharp edges and corners.

Adhere to the following safety glass standards:

- Consumer Product Safety Commission, 16 CFR, Part 1201, *Safety Standard for Architectural Glazing*.
- ANSI Z97.1, *Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test*.

3-3.2.4.2 Child Activity Room Window Criteria.

Provide child activity rooms with glass exterior walls from a maximum sill height of 11 in. (280 mm) above finished floor. Place the sill bottom on the finished floor for infant/pre-toddler rooms. Do not place sill heights between 3 and 10 in. (75 and 255 mm).

Comply with the following criteria:

- All exterior windows must be operable. A minimum of 25 percent of each window must be operable. Operable portion of the windows must be no lower than 48 in. (1220 mm) above finished floor. Windows must have an operating mechanism at a maximum height that meets ABA requirements and have draft deflectors, screens, and safety locks.
- Locate or recess casement and other projecting types of windows or awnings to preclude dangerous protrusions at child and adult heights at both the interior and exterior.
- Any glass lower than 36 in. (915 mm) above the finished floor must be tempered safety glass. Wire glass is not permitted.
- Sills must be of durable material such as solid surface materials or plastic laminate. Horizontal and vertical sill edges and corners must be rounded with a radius of .25-in. (6-mm) and must project no more than .75 in. (20 mm) from the wall.
- If window seats are provided, they must be between 10 and 12 in. (250 and 305 mm) above the finished floor and a minimum of 12 in. (305 mm) deep. Edges and corners of window seats must be rounded with a radius of .25-in. (6-mm).

- Use overhangs or tinted glass to prevent glare in CARs. Avoid excessive or heavy tinting.
- If protruding 2 in. (50 mm) or more, do not locate horizontal window muntins (horizontal mullions) between 12 in. to 43 in. (305 mm and 1100 mm) above the finished floor because they could be used as climbing support.
- If interior shades are used for daylighting control, use shade with 5% perforation opening, color to be medium to dark value, and child safety cords. Shades must not extend below 48 in. (1220 mm) AFF in CARs.

3-3.2.5 Exterior Acoustics.

Ensure windows and doors provide the following acoustical treatments:

- Use acoustically laminate glass with a Sound Transmission Coefficient (STC) rating of 35 to 45 for all window and door glazing.
- Use high-quality commercial doors with a minimum STC rating of 30 for exterior doors.

3-3.3 Interior Design.

Refer to UFC 1-200-01 and comply with stated and cross referenced requirements for Interior Design, with the following additions and exceptions for CDC's. Designer of record must coordinate with Service's regulatory authorities for current Interior Design processes, procedures and selections.

Design the interior spaces to dispel an institutional feeling, and use residential-style layouts, scales, and finishes. Ensure the interior design package is compatible throughout the facility and supportive of functional requirements. Ensure collaboration between interior designer, architect, and appropriate engineering discipline personnel.

3-3.3.1 Interior Construction.

3-3.3.1.1 Corridors.

Circulation corridors serving child activity rooms must be a minimum of 6.5 ft. (1980 mm) wide and a maximum of 8 ft. (2440 mm) wide.

3-3.3.1.2 Interior Glass.

All interior glass must be tempered safety glass and mirrors must be constructed with shatter-resistant materials.

3-3.3.1.3 Doors.

Provide vision panels at adult and child viewing heights in all doors, including closets and storage rooms, except school-age or adult toilets. Vision panels must be a minimum of 6 ft.² (.56 m²) and placed so a person opening the door can see if children are sitting or standing in front of the door. Provide a full-height vision panel in all closet,

storage, and janitor closet room doors. Full-height panels must be 4 in. to 8 in. (100 mm to 200 mm) wide, located a minimum of 6 in (150 mm) from the lock-side of the door, and extend vertically from 6 in. (150 mm) from the top of the door to 12 in. (305 mm) from the bottom of the door.

Comply with the following additional door criteria and the door hardware schedule in Table 3-1:

- Dutch doors are not permitted.
- Sliding glass doors are only allowed at the main entry as the interior door of the vestibule. Ensure the doors meet ABA, antiterrorism requirements, and the Life Safety Code requirements for emergency and non-powered operation.
- Install finger-pinch protection devices on both push and pull sides of door hinges wherever doors are accessible to children.
- Cover the hand contact and splash areas of doors and walls with a finish that is easily cleaned. Enamel paint is acceptable.
- All locking doors must be openable from the inside without a key and with a single motion (emergency passage).

Table 3-1. Hardware Schedule

Hardware	Main Entry/ Exits**	Admin Areas	CAR Exterior Doors	CAR Interior Doors	Laundry, Janitor, Building Storage	Kitchen Exterior Door	Kitchen Interior Door	Outdoor Storage	Nursing Room Door	Corridor Door (Exit Only)+
Passage latch-set				✓						
Storage lock-set					✓			✓		
Office lock-set		✓							✓	
Panic hardware/ exterior lock cylinders	✓		✓			✓				✓
Door self-closer	✓	✓		✓	✓					✓
Door self-closer w/ integral hold-open*			✓			✓				
Automatic door closer							✓			
Door stops		✓	✓	✓	✓				✓	✓
Kick-plates	✓		✓	✓	✓	✓	✓			✓
Pinch guards/hinge cups	✓		✓	✓				✓	✓	

*Magnetic hold open must be connected to building fire alarm system

**Refer to Chapter 3, "Exit Requirements" for secondary exit requirements

+Corridor Doors, used as secondary exits, must be alarmed to Front Desk

3-3.3.1.4 Casework and Counters.

Casework, counters, and cabinets must be of high-quality and durable construction. Specify Architectural Woodwork Institute (AWI) Premium or Custom for finishes per *AWI Quality Standards Illustrated*. Casework, cabinet doors, and drawer faces should be provided as veneer panel core. Doors, drawers, and casework faces should be plastic laminate at a minimum. Countertops are to be solid surface/solid composite plastics only. Specify .75-in. (20-mm) minimum thickness for plywood, plywood backing, and solid wood panels.

All counters throughout the facility must have rounded safety corners with a .5-in. (12-mm) radius.

3-3.3.2 Interior Finishes.

See Chapter 4 for finish requirements in individual spaces.

3-3.3.2.1 Color and Texture.

Choose light to medium hues for large background areas and walls used for display. Do not use bright colors on walls, floors, and carpets/rugs in large quantities. Do not provide entire walls of graphics and designs that would compete with children's work or display materials. Do not use cartoon or fairy tale characters. Warm hues are preferred.

Do not use abrasive finishes such as stucco, knock-down finishes or high-relief tiles.

3-3.3.2.2 Soft Floor Coverings.

Carpet tile is allowed in Admin areas. Comply with the following for all carpet and area rugs in other areas:

- Do not select carpet with large patterned designs, for example, games or alphabets.
- Backings must be anti-microbial of synthetic or inorganic material. For carpets, use direct glue type with an attached cushion/pad for additional life of the carpet and fall protection. Ensure adhesive or binding components of the carpet do not emit toxic fumes.
- Fibers must be stain and soil resistant 100 percent solution-dyed nylon. Minimum yarn face weight must be 28 ozs/SY (950 g/SM). Use heavy commercial wear classification carpet of level loop construction to minimize snagging.
- Ensure there are no tripping hazards at carpet transition. Area Rugs must be secured with a commercial-grade, two-sided carpet tape around the perimeter. Binding on rugs must be heavy duty .375 in. to 1 in. (9.5 to 25 mm) wide.

- Use carpets tested for Volatile Organic Compounds (VOCs) and that bear a Green Label from the Carpet and Rug Institute indicating that the carpet emissions are within the acceptable range.
- Use products containing less than 0.05 parts per million (ppm) of formaldehyde. Any product purchased with formaldehyde levels above 0.05 ppm must bear a label in accordance with 29 CFR 1910.1048.

3-3.3.3 Interior Acoustics.

Design the facility to provide a comfortable acoustical environment and provide comprehensive sound isolation and sound absorption measures for individual spaces as appropriate. Provide acoustical design to prevent sound from noisy spaces such as corridors, toilets, and mechanical rooms from having negative impact on the adjacent spaces. Limit the reverberation time to 0.6-0.8 seconds. Design for less than 0.6 seconds in smaller spaces. Limit the ambient noise level from mechanical systems, outside noises, and adjacent spaces to 30-40 dBA. Do not allow mechanical peak noise level to exceed 85 dBA. Comply with the following:

- Extend all interior partitions dividing occupied spaces to the roof deck above the suspended ceiling. Partitions can be single layer gypsum wallboard but must have cavity insulation and be completely caulked at the top and bottom of the partition.
- Design all systems to prevent cross-talk between rooms. All air transfer air ducts must be acoustically lined and contain a minimum of one 90 degree elbow. Provide sound attenuators as required. Coordinate requirements for air transfer ducts with the Mechanical Engineer.
- Do not place electrical outlet boxes back-to-back.

At a minimum, provide the required sound transmission coefficient (STC) ratings for common building spaces as identified in UFC 3-101-01, "*Architecture*". The STC ratings for spaces unique to CDC's are identified in Chapter 4, "Functional Data Sheets". STC ratings stated are for partitions, not windows and doors. Utilize gypsum board wall "improvements" to increase the STC of gypsum board "Stud Type" partitions to achieve the project sound requirements. Unless indicated in Chapter 4, STC ratings do not need to be field verified.

3-3.3.4 Interior Signage.

Develop a comprehensive signage package that addresses both way-finding and definition of all spaces within the facility. Signage should reflect and complement the environment through colors, images and materials used.

3-3.3.5 Kitchen Design.

Design team must include a kitchen designer with 5 years of experience in design of similar facilities. This consultant's involvement will include, but not be limited to, developing specifications and schedules for all kitchen equipment including utility connection sizes and capacities for all applicable items, location of floor sinks and floor

drains, and kitchen hoods. Kitchen designer must be independent of equipment providers. See Appendix E of this document for a listing of kitchen equipment for each facility size.

3-4 SERVICES.

3-4.1 Plumbing.

Refer to UFC 1-200-01 and comply with stated and cross referenced requirements for plumbing. Also comply with the following CDC- specific requirements. All floor drain traps must be self priming.

3-4.2 Fire Protection and Life Safety.

Refer to UFC 1-200-01 and comply with stated and cross referenced requirements for fire protection and life safety. Also comply with UFC 3-600-01, *Fire Protection Engineering for Facilities*, and the following CDC-specific requirements. The DoD CDC fire protection and life safety requirements exceed the minimum standards of the NFPA codes because the DoD ratio of children to child caregiver is greater than permitted in the NFPA codes. The additional features required in DoD facilities compensate for the reduced number of child caregivers.

3-4.2.1 Exit Requirements.

Comply with the following:

- All corridors must terminate at an exterior exit. Dead ends are not permitted.
- All doors in the egress paths must be a minimum of 36 in. (915 mm) and provide a minimum clear width of 32 in. (813 mm). The door must open not less than 90°.
- Equip all doors from the facility to the outside with full-width push pad panic hardware that meets Accessibility requirements. The contact or pressing surface must extend the full width of the door. This is to prevent snagging on evacuation cribs.
- Provide a door direct to the outside from every CAR.
- Equip every door from a CAR to the outside with an automatic hold open device integral to the door or door closer. Flip down door stops are not permitted.
- Every door from a CAR will permit immediate reentry from the outside at all times when the facility is being used. This must be accomplished without toggling down the panic hardware.
- Design door thresholds and hardware to facilitate the exiting of an evacuation crib with up to four children pushed and/or pulled by a single adult.

- Secondary exit doors: All exterior doors other than the main entrance, the kitchen exterior entrance, and any door that opens to a fenced area must trigger a notification when opened to the reception desk to alert staff of unauthorized entry or exit.
- Exits must have a maximum drop of .25 in. (6 mm) and be equipped with ramps with all-weather non-slip surface for emergency evacuation of wheeled evacuation cribs and wheelchairs. Turns and bends in the ramps must be wider than the minimum. Any handrails must meet requirements for guardrails and protective barriers as set forth in the *CPSC Public Playground Safety Handbook*. Size of allowable handrail openings limited to 3 in. (75 mm) (as established in CPSC guidelines for Toddlers).

Provide a smooth paved-surfaced evacuation route to a safe gathering area not less than 75 ft. (23 m) from the facility for all exits and CARs. This route must not cross any emergency vehicle access path, parking area or street, but the paved evacuation path must connect to a public way and must not dead end in grassed areas. The evacuation route must be a minimum of 60 in. (1524 mm) wide; turns and bends in the route must be wider to account for the turning radius of the evacuation cribs and wheelchairs. These routes and safe gathering area must comply with ABA requirements of an accessible route, and with the lighting requirements for exterior pedestrian walkways per UFC 3-530-01, "Design: Interior and Exterior Lighting and Controls". Additionally, the evacuation route must provide landings at 75 horizontal foot (22.9 horizontal meter) intervals. Each egress gate must provide a minimum of 44 in. (1020 mm) clear width with panic hardware in the outdoor activity area fences. The safe gathering area needs to provide protection for children from adjacent hazards via fencing (such as storm drainage facilities) or other acceptable means as determined by the Regulatory Authority identified in Chapter 1.

3-4.2.2 Additional Exiting Requirements for Extreme Cold Weather Locations.

Extreme cold weather locations are those with more than 50 hours per year with a dry-bulb temperature below 5°F (-15° C) between the hours of 0900 and 1600. (Weather data for DoD is maintained by the Air Force Combat Climatology Center and may be accessed for all DoD locations at <https://notus2.afccc.af.mil/SCISPublic/>). The file can be searched by installation or city name. Temperature data is found in the Table, Dry-Bulb Temperature Hours for an Average Year and is presented first by month and annual summary. From the summary under the column 0900 to 1600, total the hours. For example, the numbers in parenthesis are the hours in that temperature range for the following bases: Bangor, ME (40); Elmendorf AFB, AK (151); Minot, ND (244); Offutt AFB, NE (41); and Andrews AFB, MD (0). Weather data is also available at <http://www.afccc.af.mil/> using the "Other Domain" link to submit a service request for the weather data. If a location meets the criteria for an "extreme cold weather location," comply with the following:

- Provide a two-hour area separation wall dividing the facility child activity areas roughly in half on either side of the wall. Locate the core

administrative/support areas totally in one area or the other. Provide for horizontal exiting from one fire area to the other.

- Design corridor/room doors in the two-hour area separation wall to recess into the wall providing a smooth continuous wall surface. Install magnetic latches to hold door open, which release when the fire evacuation signal sounds. Install swinging doors that swing in opposite directions.
- Install magnetic latches to hold open other doors in the two-hour area separation wall that release when the fire evacuation signal sounds.
- Seal and fire stop all penetrations of the two-hour separation wall for conduit, piping, HVAC and electric service to maintain the fire rating of the wall.

3-4.2.3 Emergency Lighting.

Incorporate the emergency lighting into the normally provided lighting fixtures including the lighting in laundry rooms.

3-4.2.4 Fire Separation.

Provide a one-hour fire resistive fire barrier around the laundry room.

3-4.2.5 Fire Suppression Systems.

Provide complete automatic sprinkler systems in accordance with UFC 3-600-01 and NFPA 13. Comply with the following criteria:

- Provide wet pipe sprinkler system. Dry pipe sprinkler system may be used for those portions of the facility subject to freezing. Anti-freeze and pre-action systems are not permitted.
- Use quick response-type sprinkler heads in wet pipe sprinkler systems.
- Discharge inspectors' test connections to a safe, outside location onto a hard surface outside of areas where children play or congregate. Indicate location on drawings.
- Make fire department connection (FDC) accessible without entering or transiting a children's play area or crossing a discharge path. Provide the FDC on the street side of the building within 150 ft. (45m) of a fire hydrant outside of a fenced area and arranged so that the hose lines can readily and conveniently be attached without interference from any near-by object.
- Provide a wet chemical hood duct and cooking surface fire extinguishing system according to NFPA 96.

3-4.2.6 Fire Detection, Alarm System and Mass Notification System.

Provide systems in accordance with UFC 3-600-01 and comply with the following criteria:

- Locate the control panels in environmentally controlled locations in the facility.
- Use fully addressable Class B control panels with addressable detectors, supervisory sensors, and pull stations.
- Provide a pre-recorded voice notification of fire and other emergencies using a female voice. Provide an alerting tone consisting of a chime sound before each pre-recorded message. In facilities that are exempted from providing mass notification, provide fire alarm audible notification throughout the facility using an uncoded chime sound. Provide appliances to make the chime sound that are listed for “fire alarm service, private mode (45 dBA at 10 ft. (3.1m))”. Provide this level in all interior areas of the building except where required to meet the louder output sound level required by NFPA 72 for mechanical rooms and other service areas subject to high levels of ambient noise.
- Provide smoke detection in all areas including closets over 20 ft.² (1.86 m²) except the kitchen and spaces that are not climate controlled, such as the attic, walk-in coolers, and the mechanical equipment room.
- For those facilities using multiple, physically separated buildings/structures but one shared reception area, fire alarm and mass notification systems must be interconnected so that all facility occupants receive notification alarms and signals originating in any building/structure.

3-4.2.7 Carbon Monoxide Detection System.

Provide a protected premises carbon monoxide detection system in accordance with NFPA 720 for each building provided with fuel burning appliances. The carbon monoxide system must include the following required features:

- Automatic carbon monoxide alarm signal initiation.
- Notification of carbon monoxide alarms to building occupants using the audible and visual appliances of the mass notification system.
- Transmission of carbon monoxide alarms to the Base Fire Department as a supervisory signal in accordance with NFPA 72.
- Transmission of carbon monoxide detection system trouble and supervisory signals to the Base Fire Department in accordance with NFPA 72.
- Combination-type carbon monoxide detection systems that are integrated in operation with the building mass notification system and fire alarm system, and that meet the requirements of NFPA 72 for combination systems.

- Class B initiating device circuits, notification appliance circuits, and signaling line circuits.
- Install carbon monoxide detectors in accordance with the manufacturer's published instructions on the ceiling in the same room as all permanently installed fuel-burning appliances. Also provide at least one carbon monoxide detector centrally located within each area served by a separate air handler.

3-4.3 Electrical Design.

In addition to the criteria established in UFC 1-200-01 and the references therein, comply with the following CDC-specific requirements:

3-4.3.1 General Requirements.

Provide wall duplex receptacles at a maximum of 8 ft. (2.44 m) on center. Provide at least one duplex outlet on walls less than 9 ft. (2.74 m) long. All receptacles must be listed Tamper-Resistant (removable caps or plugs are not acceptable).

3-4.3.2 Lighting.

For the overall design approach, adapt the appropriate sections of UFC 3-530-01. To meet applicable energy codes and utilize daylight harvesting, dimming may be necessary. However, lights cannot completely shut off during operating hours. Provide automatic controls to maintain minimum light levels throughout the facility and prevent lights from completely turning off during occupied hours. See Chapter 4, "Functional Data Sheets", for additional specific light level and control requirements.

Designers must coordinate with activity to verify that specifications as written are sufficient to ensure operational controls are appropriate for a CDC and lighting systems do not shut off during operating hours.

3-4.3.3 Optional Standby Power Connection.

Provide a standby generator hook-up and interior manual transfer switch to power the entire facility load. Ensure availability of a hard surface area adjacent to the building service entrance to accommodate the generator. Ensure that this surface is outside of the outdoor activity area and does not impact other child-occupied areas or pathways.

3-4.3.4 Intercom System.

Provide two way communication between child activity rooms to master station and other areas in the facility. The room devices must have two capabilities - communication must function hands-free as a one-touch control and allow for communication from anywhere in the room without using a headset or handset; also, handset functionality must be provided. "Hands-free" does not include a headset with a microphone. The master station in the reception area must include a handset and a hands-free function. The master station must have an "all call" capability. If intercom and telephone

capabilities are combined, coordinate programming with activity for operational controls of system (e.g., rooms in which calls outside building are prohibited).

3-4.3.5 Electronic Security Systems (ESS).

Design the ESS in accordance with UFC 4-021-02, *Electronic Security Systems*.

3-4.3.5.1 Intrusion Detection System (IDS)

The IDS components to be funded by construction funds and included in all projects include:

- A duress alarm (panic button) at the receptionist desk that reports to installation security dispatch.
- Point sensors on exit-only corridor doors that alarm at the front desk to indicate the potential that a child has exited the building.

Additional features for the IDS may be required by installation command and will be funded by the installation.

3-4.3.5.2 Access Control Systems

Provide card reader with keypads at entry to building.

3-4.3.5.3 Closed Circuit Television (CCTV)

Provide a complete and usable digital CCTV system, including all equipment, for child monitoring. See Chapter 4, "Functional Data Sheets" for monitor and camera locations.

3-5 HVAC.

3-5.1 General

Refer to UFC 1-200-01s and comply with stated and cross referenced requirements for HVAC. Also comply with UFC 3-401-01, *Mechanical Engineering* and 3-410-01, *Heating, Ventilating, and Air Conditioning Systems*. In addition, the following requirements are specific to CDC's:

- All Child Development Centers (CDC's) must be provided with mechanical heating and cooling as required to maintain space temperature and humidity levels listed below and in the tables in Chapter 4. All return air must be ducted to unit from each space. Plenum return systems will not be acceptable. Coordinate interior acoustic requirements for air transfer ducts with the Architect.
- Temperature for all regularly occupied areas to be adjustable between 68°F to 73°F (20°C to 22.8°C) in winter and 72°F to 77°F (22.2°C to 25°C) in summer.

- Relative Humidity will not exceed 50% RH in any space with mechanical cooling.

3-5.2 Kitchen.

Provide listed ventilation hoods over all cooking and warming appliances.

3-5.3 Laundry.

All dryer exhaust ducting must be metal. Use only solid metal ducting to transition through the fire barrier.

3-6 FURNISHINGS.

3-6.1 General.

Comply with following for furnishings in areas accessible to children:

- Furnishings must have rounded corners or edges with a .5-in. (12-mm) radius.
- Furnishings must not splinter or have toxic surfaces.
- Furnishings that are 36 in. (915 mm) or higher must be secured to prevent tipping.
- Furnishings less than 36 in. (915 mm) in height must be easily moved by staff to help define activity areas (e.g., storage units, display space units, bookcases, puppet stages) and circulation paths.
- Choose furnishings and equipment that meet all applicable codes and standards and are age appropriate.

3-6.2 Tables and Chairs.

Specify comfortable, cleanable upholstered adult seating in the infant/pretoddler CARs to provide a place where caregivers can nurture children. Child-scaled seating includes cleanable upholstered or exposed frame seating. To avoid suffocation, do not use beanbags, cushions and pillows for infants. Scale tables and chairs to the child. A minimum of one table per CAR must be height adjustable with appropriate knee clearance for children in wheel-chairs, 24 in. (600 mm) above the finished floor by 24 in. (600 mm) deep by 30 in. (750 mm) wide. Provide so top surface height is a maximum of 2 in. (50 mm) higher than knee clearance. See Appendix B, Designing for Children, for more information on anthropometric dimensions.

3-7 EXTERIOR SIGNAGE.

Identify the CDC as a "Child Development Center." Ensure that signage complies with Installation requirements. The installation or community name or graphical location of the facility may be used for public identification purposes (i.e. "____ Base Child

Development Center"). Do not use terms such as "Nursery," "Child Care Center," or "Preschool" to designate a CDC. Unique names must be approved by Program Management and Regulatory Authorities designated in Chapter 1 of this document. Sign placement and type are site-specific, but signs must be strategically located, adequately lit, and of sufficient size to permit proper viewing by individuals approaching the facility.

3-8 SITE DESIGN.

3-8.1 Grading and Drainage.

Ensure that all areas have positive drainage. This is especially critical in outdoor play areas. If possible, accommodate both the building and outdoor activity areas without extensive grading and potential damage to the existing drainage run-off patterns. Water must be drained away from all play areas to ensure the areas are useable as quickly as possible after rain. Drop inlets and catch basins are not allowed within outdoor activity areas.

3-8.1.1 Minimum Slopes.

Position drainage slopes away from the building at a minimum slope rate of 1:20, except in areas designated for the physically handicapped. Do not exceed a slope rate of 1:3 for banks for transition from one area to another. Use a minimum slope of 1:50 for grass areas.

3-8.1.2 Hydrologic Regime.

Rather than creating a large retention basin that could be a hazard, control storm water at the source by the use of micro-scale features that are distributed throughout the site. Locate retention or detention basins as far away as possible from the outdoor activity areas.

3-8.1.3 Downspouts.

Locate above-grade downspouts outside the outdoor activity areas and away from areas where children congregate. If this is not possible, connect downspouts to an underground drainage system. Design any elements of the downspouts or the drainage system located in the outdoor activity area to be free of sharp edges. Protect underground drainage systems from clogging. Provide a subsurface drainage system under all safety surfacing systems (including synthetic surfacing).

3-8.2 Walkways.

Connect the building to the public sidewalk system and to parking with pedestrian sidewalks. Comply with the following:

- The sidewalks must be a minimum of 5 ft. (1525 mm) wide.
- All access ways must utilize ramps or be on grade.

- Provide sidewalks immediately in front of or beside any designated parking areas to minimize the need for a child to walk behind a parked car to gain access to the building.
- Pedestrian approaches to the building must not pass through any outdoor activity areas.
- Where possible, provide views of the outdoor activity areas from the main walk from the parking lot to the building entrance, considering a child's height and perspective.

3-8.3 Parking/Vehicular Circulation.

Design the parking and vehicular circulation to meet UFC 3-201-01, *Civil Engineering*. Also comply with the additional criteria and exceptions in this section. For planning purposes, pavement area must allow for circulation, parking, and drives, plus space for the drop-off. Gravel surfacing is not permitted.

The layout of the parking lot and traffic circulation must consider the safety of the children when entering and departing the facility. Parking lots must be designed such that children are not required to walk behind parked vehicles as they walk from the parking lot to the building. Do not use parallel parking. If the parking lot design requires crosswalks, these must be painted and identified with signage in appropriate locations to ensure the safety of the patrons. All sidewalks must be ADA compliant.

For safety, separate vehicular and pedestrian circulation. Provide parking and vehicular access for six different functions:

3-8.3.1 Bus Drop-Off/Pick-Up.

Not all CDC programs use buses. If required, locate the bus drop-off/pick-up directly adjacent to the main building entrance. Provide safe points of facility access for children and adults that are separate from the main vehicular circulation. Bus drop-off/pick-up must be configured such that the right (door) side of the bus will always face the main facility entry.

3-8.3.2 Parent and Visitor Parking.

Parents are required to walk the child inside the facility for drop-off and to meet the child inside the facility for pick-up. This drives the need for a significant quantity of parent parking. Provide one space per 12 children accommodated by the facility. Support an increase in the parking allocation for patrons with the required site traffic impact study (see Chapter 2, "Site Selection"). Accommodate easy return to parking areas for circling. Provide a one-way traffic pattern with angled parking to improve traffic flow and limit back-up and turning maneuvers. Locate parent parking as close to the CDC entrance as possible while meeting required antiterrorism stand-off distances. Maximize the parking on the building-side of the drive to reduce the conflict between vehicles and children. Compact parking spaces (less than 9 ft. (2.7 m) wide) are not permitted in the parent and visitor lot. Strive to locate area drains and drainage inlets

away from paths where strollers will travel or parents and children will walk. Where signage is provided, use posts with no sharp edges.

3-8.3.3 Staff Parking.

Separate staff parking from parent/visitor parking. Locate staff parking near the building with a view to the entry. Provide parking spaces for the maximum number of staff on duty at one time. Staff parking can be configured for 90-degree parking.

3-8.3.4 Service Access.

Verify the size of required service vehicles and dumpster pad prior to planning and designing the service access areas. Plan service drive to allow ease of access to kitchen. Provide a back-up spur for dead-end and service drives which exceed 100 ft. (30.5 m) in length. Screen or separate the service area from public use or traffic areas with fences, depressions, berms, and landscaping. Ensure proper drainage if depressions are used. Provide physical barriers to separate outdoor child areas from all service areas. Service access must not cross outdoor activity areas.

Locate access near the serviced areas and consolidate service access when site and building layout allows. Provide a service vehicle apron. Four basic functions require service access:

- Occasional supply deliveries (furniture, laundry, books, toys).
- Regular food deliveries to the storage and kitchen area.
- Mechanical room related service (fuel deliveries, maintenance equipment).
- Regular garbage pick-up.

3-8.3.5 Emergency Vehicle Access.

Coordinate emergency vehicle access with the Installation fire protection. Personnel emergency egress routes/exit discharge paths must not cross any vehicle access roads.

3-8.3.6 Maintenance Vehicle Access.

Coordinate maintenance vehicle access with the Installation engineer's office.

3-8.4 Utilities.

Transformers, mechanical equipment, and other above-grade utilities must not be located within the outdoor activity area and must be inaccessible to children. This includes storm drainage inlets, utility clean outs, valve covers, and manhole covers. These items must be securable and accessible to only the installation's engineering staff.

3-8.5 Radon.

Evaluate and mitigate Radon. See Appendix B for more information.

3-8.6 Perimeter Fencing.

There is no policy-based requirement for a perimeter fence. Coordinate the need for a perimeter fence with security personnel. If a perimeter fence is determined to be a project requirement, the fencing must be ornamental. Also provide perimeter fencing for CDCs located in “high traffic” areas. Comply with UFC 4-022-03, *Security Fences and Gates*, for perimeter fencing requirements. See Chapter 5 for requirements of fencing around Outdoor Activity Areas.

3-9 LANDSCAPING.

Landscaping is a critical component of a CDC and must be coordinated with the outdoor activity area design. Landscaping must reflect the local geographical environment, and selected plants must be easy to maintain and enhance the visual quality of the facility, including the entrance way, in all seasons. Use indigenous species to the greatest extent possible. Comply with UFC 3-201-02, *Landscape Architecture*, and the local Installation landscape standards.

Three critical components of CDC landscaping require attention beyond that of most other facility types: Child safety, child learning opportunities, and durability.

3-9.1 Child Safety.

Plants with thorns are not permitted. Poisonous or toxic plants are not permitted. Plants that produce fruits, nuts, or seeds that represent choking hazards, regardless of toxicity, are not permitted. Verify the selected and existing plant material for meeting these requirements—the submittal section of specifications require written verification by the nursery contractor that plants with thorns, poisonous plants, toxic plants, or fruit bearing plants are not planted in the outdoor activity area. A non-comprehensive list of common non-poisonous and poisonous plants is included in Appendix C of this document. For a comprehensive list of poisonous plants, refer to *Peterson Field Guides: A Field Guide to Venomous Animals & Poisonous Plants*.

Any fertilizers, herbicides and pesticides used in the outdoor activity area must be approved for use in child care environments by the Armed Forces Pest Management Board.

3-9.2 Child Learning Opportunities.

Provide a variety of plants with seasonal change, color, texture, fragrance, and interpretive value in the outdoor activity area to accommodate the programming requirements to provide learning opportunities for children. Gardens are permitted in outdoor activity areas for pre-school age children provided all plants are non-poisonous, and all fertilizers, herbicides and pesticides are approved for use in child care environments.

Preserve natural landscape features, including existing topography, trees and vegetation. Supplement the natural features as needed to provide opportunities for children to explore different aspects of nature. Ensure that natural features such as hills

and nature areas are accessible. Integrating plants into the entire play area is preferred over isolated nature areas. All areas of the outdoor activity area must be visibly accessible to adult supervisors.

While a maximum slope rate of 1:3 for site grading is allowed, a 1:2 slope is allowed for berms that incorporate hill slides in outdoor activity areas.

3-9.3 Durability.

Always use local, durable, native species to the greatest extent possible to help ensure survivability. Children's play will inflict additional wear and damage to plants, especially in playgrounds; provide plantings that are resilient and of adequate size to withstand daily play.

3-9.4 Irrigation.

When utilized, provide an irrigation system with sprinkler heads that do not present tripping or other safety hazards in the outdoor activity areas. Exposed or accessible elements of the sprinkler system must not have openings between .375 in. (9 mm) and 1 in. (25 mm) in size. Locate controls for the irrigation system in the mechanical room. Locate back-flow preventers, risers, and valves outside the outdoor activity area. An irrigation system for the landscaped areas will be determined on a case-by-case basis for the specific installation, project budget, and sustainable design principles. The only non-potable water allowed for irrigation systems in outdoor activity areas is rainwater.

This Page Intentionally Left Blank

CHAPTER 4 SPECIFIC DESIGN CRITERIA

4-1 INTRODUCTION.

This chapter identifies the specific design needs for each functional area as outlined in the space program. Tables 4-1 through 4-13 provide this data in a standard Functional Data Sheet format.

The interior construction specialties, equipment and furnishings criteria provided in these tables are broken down as follows:

4-1.1 Casework/Built-in Equipment.

This includes anything physically attached or plumbed to the building such as counters, cabinets, casework, toilet accessories, window treatments, laundry machines, and retractable overhead screens.

4-1.2 Furnishings, Fixtures, and Equipment (FF&E).

For the purposes of this FC, FF&E is broken down into Type 1 and Type 2. The FF&E types are distinguished as follows:

- Type 1. This includes contractor-furnished, contractor-installed loose items such as desks, tables, chairs, and bookshelves.
- Type 2. This includes all government-furnished, government-installed items, which are typically limited to office equipment such as computers, printers, copiers, and projectors (if mounted, projector mount would be built-in). Also, toys and accessories for the Child Activity Rooms are included in this FF&E Type.

4-2 ADMINISTRATIVE, STAFF SUPPORT, AND FACILITY SUPPORT.

Tables 4-1 through 4-9, and 4-13 are the functional data sheets for the administrative, staff support and facility support spaces.

Table 4-1. Entrance/Lobby/Corridors

Description/ Usage	The lobby serves as the primary entrance to the facility for parents, children and visitors, and it connects all the primary circulation pathways of the facility. Parents will escort children to the activity rooms. A waiting area is included.
Ceiling Ht.	10 ft. (3.05 m) minimum; 12 ft. (3.7 m) maximum.
Windows/Doors	Provide windows and doors per Chapter 3, Windows and Doors. Provide an entry vestibule at the main entrance. Exterior doors must accommodate adult- and child-height views from both sides. Sliding glass doors are only allowed as the interior door of the vestibule and must be automated. The exterior door of the vestibule must be an automated hinged door. If the sliding doors are used, plainly mark the doors at both adult and child levels to prevent someone walking through the door by accident.
Finishes	Walls. Lobby & Corridors. Provide a low-maintenance, durable finish with a wainscot. Consider high performance architectural latex coated (MPI no. 140) gypsum wallboard.

Table 4-1. Entrance/Lobby/Corridors

	<p>Floor. Lobby. Provide a low-maintenance, durable, moisture and slip-resistant finish suitable for this high traffic area. Options include resilient flooring, sheet vinyl, stained concrete, stone, or terrazzo. Provide a recessed walk-off mat/area at the entrance door. Provide a base that matches the flooring or a resilient base. Corridors. Resilient flooring. Service Exception: USMC allows carpet. Ceiling. Lobby. Painted gypsum wallboard or acoustical ceiling panels (ACP). Corridors. ACP</p>
Plumbing	Corridors: Provide an electric water cooler near the lobby and public toilets.
HVAC	Provide system per Chapter 3, "HVAC".
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety". Provide either a graphic or alphanumeric annunciator at the front desk or main entrance vestibule.
Power	Provide power per Chapter 3, "Electrical". Coordinate all powered equipment locations with the program personnel identified in Chapter 1, Regulatory Authorities, and place outlets accordingly to eliminate the need for extension cords. For safety of the children, the top of the electrical outlet boxes must be 54 in. (1370 mm) above finished floor. Outlets provided above countertops must be located no less than 18 in. (455 mm) from the edge of the countertop. .
Lighting	Provide system per Chapter 3, "Electrical".
Communication	<p>CCTV. Provide outlets to cover the entrance and the interior. All monitors must be viewable from the entrance and lobby. CATV/Internal Video. Provide a CATV outlet. Intercom. None required. Telephone. Provide an outlet in the waiting area. Data. Provide an outlet in the waiting area.</p>
Security System	Ensure visibility of the entrance from the reception/work area. Any additional security equipment must have a non-threatening appearance.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics".
Casework/Built-in Equipment	<p>Lobby. Provide a means to display facility information and children's artwork. Corridors. Provide a means to display children's artwork. Provide a parent-teacher board at the entry to each of the CARs. Provide CCTV cameras per the outlet count and monitors.</p>
Type 1 FF&E	Waiting area includes durable, easy-to-clean, and moisture-resistant furniture; tables; magazine and brochure rack; wall art; and a wall clock.
Type 2 FF&E	
Special Req.	<p>Include an area within or near the waiting area to store child safety seats and strollers. Provide a grated snow-trap for northern tier bases. Provide a means to visually reduce the length of the longer corridors, e.g. varied wall, ceiling and floor finishes, patterns, and design. If possible, allow children in the lobby/waiting area to see into some of the activity rooms.</p>
For use during project execution by the appropriate Service agency	
Occupancy	<p>Staff. Customers.</p>
Min. net m² (ft²)	

Table 4-2. Reception/Work Area

Description/ Usage	The reception desk is the focal point of information exchange within the building and is the check-in/out location for patrons. It is also the working surface for the receptionist/desk attendant. The work area includes shared office equipment and general work space.
Ceiling Ht.	9 ft. (2.74 m) minimum. 12 ft. (3.7m) maximum.
Windows/Doors	None required.
Finishes	Walls. Provide high performance architectural latex coated (MPI no. 140) gypsum wallboard. Floor. In front of counter: Provide a low-maintenance, durable, moisture and slip-resistant finish suitable for this high traffic area. Options include resilient flooring, sheet vinyl, linoleum sheet, vinyl plank flooring, stained concrete, stone, or terrazzo. Provide a base that matches the flooring or a resilient base. Behind counter and work area: Can match the lobby, or resilient flooring and carpet are also permitted for all Services. Provide resilient base. Ceiling. Match lobby ceiling. Consider using the ceiling to define and separate this area from the Lobby, i.e., a dropped gypsum board soffit over the reception desk and gypsum board false beams.
Plumbing	None required.
HVAC	Provide system per Chapter 3, "HVAC". Locate HVAC shutdown switch here.
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety". Provide LOC.
Power	Provide power per Chapter 3, "Electrical". In addition, perform a power requirement survey as this area's power requirements are extremely site- and locale-specific.
Lighting	Provide system per Chapter 3, "Lighting". Provide emergency lighting to illuminate the desk area to a minimum of 1 ft. candle (10 lux).
Communication	CCTV. All monitors must be viewable from this area. Also see Special Requirements. CATV/Internal Video. None required. Intercom. Provide the master controls for the facility internal two-way system. Telephone. Provide outlets for the required number of phones and facsimile machines. Data. Provide outlets for the required equipment.
Security System	If a security system is provided, place the controls and a duress alarm accessible to the receptionist/desk attendant.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics".
Casework/ Built-in Equipment	Provide a 24-in- (610-mm-) deep dual-height transaction counter that accommodates a minimum of one person in a wheelchair, a minimum of three standing adult patrons for small facilities and six standing adult patrons at large and extra large facilities. Ensure that a child can see the receptionist/desk attendant behind the counter, and vice versa. The counter must be dual height for standing transactions, seated office functions. The counter must be a durable solid surface material such as granite, concrete, or solid plastic—laminated is not permitted. Modesty panels and apron must also be of durable materials. Consider providing wall and base cabinets and an equipment counter. Provide CCTV monitors – verify size with Regulatory Authorities identified in Chapter 1.
Type 1 FF&E	Reception desk chairs and patron stools.
Type 2 FF&E	Point of sale equipment. Office equipment, including computers, printers, copiers, scanner, and facsimile machine.

Table 4-2. Reception/Work Area

Special Req.	The receptionist/desk attendant must have direct line-of-sight visual control over the main entrance and the CCTV monitors. Place the monitors so the seated attendant does not have to turn more than 30° to 45° from his or her normal working position to view the monitors. Coordinate the location of the monitors and the overall design of the area, including the lobby, with the monitor equipment selection to ensure appropriate viewing angles and distance. If the distance from the receptionist position to the monitor exceeds 6 ft (1830 mm), a separate monitor is required in close proximity to the receptionist.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-3 Administrative Offices

Description/ Usage	The required offices will vary both by Service and Installation. Refer to Chapter 1, "Scope of Facility", and Chapter 2, "Space Program", for additional guidance. Locate offices as close to lobby/reception area as possible.
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide windows and doors per Chapter 3, "Windows and Doors and Interior Construction". If possible, locate offices on exterior wall and provide windows for natural light admission.
Finishes	Walls. Provide high performance architectural latex coated (MPI no. 140) gypsum wall board. Floor. Carpet with resilient base. Ceiling. ACP.
Plumbing	None required.
HVAC	Provide system per Chapter 3, "HVAC".
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety".
Power	Provide power per Chapter 3, "Electrical".
Lighting	Provide system per Chapter 3, "Electrical".
Communication	CCTV. Provide an outlet for a single CCTV monitor in the director's office. CATV/Internal Video: None required. Intercom. Provide a system remote in each enclosed space. Telephone. Provide one line per staff plus one additional line for fax and copier. Data. Provide one outlet per staff plus one outlet for each piece of equipment such as printers, copiers, and scanners.
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics", and provide partition construction with a minimum STC rating of 45.
Casework/ Built-in Equipment	Provide coat hooks. Provide CCTV monitor in Director's Office only. Provide dry-erase boards in select offices and workstations.
Type 1 FF&E	Private Offices: desk, credenza, filing cabinet, desk chair, and two side chairs. Workstations: desk chair and side chair for open offices. Workstation systems furniture must provide adequate space for filing and overhead storage. The training and curriculum office requires one (1) lockable, four-drawer lateral file cabinet for each office/workstation.
Type 2 FF&E	Office equipment, including computers, printers, copiers, scanner, and facsimile machine.
Special Requirements	Provide direct line of sight from the director's office to the lobby/reception. If possible, provide direct line of sight from the FCC/CDH office to the lobby reception. The training and curriculum specialist office must be buffered visually and acoustically from the public areas and the CARs. The following offices require a 6 ft. ² (0.56 m ²) lockable storage closet: Director, Administrator, and Resource and Referral.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-4. Break/Staff Room

Description/ Usage	This space is used for staff breaks, meals and storage of belongings. It should be located adjacent to the staff/public toilet and the training and curriculum office, and it should be buffered visually and acoustically from the public areas and CARs.
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide windows and doors per Chapter 3, "Windows and Doors and Interior Construction".
Finishes	Walls. Provide high performance architectural latex coated (MPI no. 140) gypsum wall board. Floor. Carpet or durable resilient flooring with resilient base. Provide resilient flooring at sink area. Ceiling. ACP.
Plumbing	Provide a sink and a water line for connection to refrigerator ice maker.
HVAC	Provide system per Chapter 3, "HVAC".
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety".
Power	Provide system per Chapter 3, "Electrical".
Lighting	Provide system per Chapter 3, "Electrical".
Communication	CCTV. None required. CATV/Internal Video. Provide one outlet. Intercom. Provide a system remote. Telephone. Provide one line. Data. Provide a dedicated outlet for the time clock and at least one additional outlet.
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics".
Casework/ Built-in Equipment	Provide solid-surface countertops with lockable wall and base cabinets. Provide 24-in- (610-mm-) deep Z-shaped lockers for staff. Provide bulletin board with tack surface.
Type 1 FF&E	Tables, chairs, microwave, refrigerator, coffee machine, television, wall clock, and time clock.
Type 2 FF&E	Telephone.
Special Requirements	If possible, locate break room on exterior wall and provide windows for natural light admission.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-5. Training Room

Description/ Usage	The training room provides space for staff work, development of program materials, and utilization for staff training library and resources. Also includes two computer workstations for computer-based training. It should be located adjacent to the staff/public toilet and the training and curriculum office, and it should be buffered visually and acoustically from the public areas and CARs.
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide windows and doors per Chapter 3, "Windows and Doors and Interior Construction".
Finishes	Walls. Provide high performance architectural latex coated (MPI no. 140) gypsum wall board. Floor. Carpet with resilient base. Ceiling. ACP.
Plumbing	None required.
HVAC	Provide system per Chapter 3, "HVAC".
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety".
Power	Provide system per Chapter 3, "Electrical". For safety of the children, the top of the electrical outlet boxes must be 54 in. (1370 mm) above finished floor.
Lighting	Provide system per Chapter 3, "Electrical".
Communication	CCTV. None required. CATV/Internal Video. Provide one outlet. Intercom. Provide system remote. Telephone. Provide one line. Data. Provide outlets as required for equipment.
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics", and provide partition construction with a minimum STC rating of 45.
Casework/ Built-in Equipment	Countertop with wall and base cabinets. Provide a storage closet for training materials and AV cart. Provide an electrically operated retractable screen, a built-in ceiling projector mount with network connection, bulletin board with tack surface, and dry-erase board.
Type 1 FF&E	Provide TV, VCR, and DVD player. Provide conference/work tables and chairs for 30 percent of staff in all facilities.
Type 2 FF&E	Computer projector, printers, and interactive dry-erase board.
Special Requirements	
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-6. Central Storage

Description/ Usage	The separate central storage room provides space for shared program materials, audiovisual equipment, and other resource materials. It is located near staff/administrative areas.
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide doors per Chapter 3, "Doors".
Finishes	Walls. Provide high performance architectural latex coated (MPI no. 140) gypsum wall board. Floor. Resilient flooring with resilient base. Ceiling. ACP.
Plumbing	None required.
HVAC	Provide system per Chapter 3, "HVAC".
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety".
Power	Provide system per Chapter 3, "Electrical".
Lighting	Provide system per Chapter 3, "Electrical".
Communication	CCTV. None required. CATV/Internal Video. None required. Intercom. Provide system remote. Telephone. Provide one line. Data. Provide one outlet.
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics".
Casework/ Built-in Equipment	Provide a combination of low open shelving, drawers, cabinets with doors, hooks that do not present a hazard, adult-height shelves, and wall-hung cabinets. Maintain an 18 in. (455 mm) clearance below the lowest point of the sprinkler heads.
Type 1 FF&E	None required.
Type 2 FF&E	Provide cart for multi-roll 48 in. (1220 mm) wide classroom paper. Provide baskets, boxes, chests, storage bags, buckets, crates and bins.
Special Requirements	Provide space for and access to multi-roll classroom paper cart.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-7. Staff/Public Toilets/Janitor’s Closet

Description/ Usage	ABA-compliant facilities located near the lobby and staff areas. In small CDCs, combine public and staff toilets. In medium, large and extra large facilities, provide separate public and staff toilets. Minimum requirements are as follows: Small CDCs - two unisex staff/public toilets. Medium CDCs - one unisex public and two unisex staff toilets. Large and Extra Large CDCs - one unisex public and three unisex staff toilets.
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide doors per Chapter 3, Doors. Any staff or public toilet that is not directly visible from the reception desk must require keyed entry or cipher lock.
Finishes	Walls. Epoxy painted, mold-resistant gypsum wall board with a ceramic tile wainscot. Consider full ceramic tile walls with integral patterns. Use a dark-colored epoxy grout. Janitor’s closet: Epoxy painted, mold-resistant gypsum wall board Floor. Porcelain tile with integral patterns. Use a dark-colored epoxy grout. Janitor’s closet: sealed concrete. Ceiling. Epoxy painted, water-resistant gypsum board. None needed for janitor’s closet.
Plumbing	Provide floor-mounted water closets and wall-hung lavatories. Provide a floor drain with trap primer in each room.
HVAC	Provide system per Chapter 3, “HVAC”.
Fire Protection and Life Safety	Provide system per Chapter 3, “Fire Protection and Life Safety”.
Power	Provide system per Chapter 3, “Electrical”. For safety of the children, the top of the electrical outlet boxes must be 54 in. (1370 mm) above finished floor.
Lighting	Provide system per Chapter 3, “Electrical”. The lights in the janitor’s closet must be controlled automatically to remain on during facility operating hours.
Communication	CCTV. None required. CATV/Internal Video. None required. Intercom. None required. Telephone. None required. Data. None required.
Security System	None required.
Acoustics	Design space to comply with Chapter 3, “Interior Acoustics”.
Casework/ Built-in Equipment	Solid-surface countertop with either underhung or integral sink. Mirror. Toilet accessories: toilet paper dispensers, paper towel dispenser with integral trash receptacle, robe hooks, grab bars, sanitary napkin disposal, seat cover dispensers, and soap dispensers. Fold-down diaper changing table/station.
Type 1 FF&E	Provide lockable cabinets for cleaning supplies and maintenance cart for Janitor’s Closet.
Type 2 FF&E	None required.
Special Req.	Provide a Janitor’s closet associated with or in proximity of these toilets. This closet includes a floor mop sink with hot and cold water and a hose connection, a floor drain, and storage for pails, mops, vacuums, and related cleaning supplies and equipment. Include an outward-swinging, lockable door with a vision panel per Chapter 3, “Interior Construction” that can be opened from the inside without a key.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-8. Kitchen

Description/ Usage	<p>CDC kitchens support food preparation, food and supply storage, delivery of snacks or meals to CARs, sanitation (washing of dishes, utensils, pots, pans, etc.), and storage of food service equipment, flatware, and dishes.</p> <p>Locate kitchen adjacent to an exterior wall and the service area. It requires a direct service entrance from the outside that does not cross any outdoor areas. Provide direct pathways from the kitchen to the CARs that do not pass through the lobby or other functional areas for food cart transport.</p>
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide windows and doors per Chapter 3, "Windows and Doors and Interior Construction".
Finishes	<p>Walls. Epoxy painted mold-resistant gypsum wall board. Food prep areas will have ceramic tile with dark-colored epoxy grout or stainless steel wall finish. The walls must be impact resistant up to 48 in. (1220 mm) from finished floor; consider using FRP panels.</p> <p>Floor. Quarry tile with epoxy grout or liquid applied flooring designed for commercial kitchens.</p> <p>Ceiling. High humidity-rated, ceramic-faced ACP.</p>
Plumbing	<p>Provide hand-washing sinks at each entrance; a two-compartment food preparation sink; a three-compartment, deep dishwashing sink with a gooseneck faucet. Provide a hot water booster to 180°F (82°C) to the dishwashing sink and to the heavy-duty, commercial-grade dishwasher. Provide a floor drain.</p> <p>Service Exception: Navy does not permit ice makers.</p> <p>CDC kitchens will typically use grease interceptors in lieu of central grease traps to service individual equipment. Locate them to be easily accessible for cleaning, be located outside of food preparation areas, and not project above the floor in open walkways or work areas. Exposed covers must be rust-proof and skid resistant. If central grease traps are provided, locate them outside the building in a service area inaccessible to children.</p>
HVAC	Provide system per Chapter 3, "HVAC".
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety". Provide a fully recessed extinguisher cabinet with a Class K fire extinguisher.
Power	Provide system per Chapter 3, "Electrical". In addition, perform a power requirement survey as this area's power requirements are extremely site- and locale-specific. Provide a dedicated electrical circuit for the cold storage.
Lighting	Provide system per Chapter 3, "Electrical".
Communication	<p>CCTV. None required.</p> <p>CATV/Internal Video. None required.</p> <p>Intercom. Provide a system remote.</p> <p>Telephone. Coordinate with activity if telephone is allowed.</p> <p>Data. Provide one outlet.</p>
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics".
Casework/ Built-in Equipment	<p>Provide minimum 24-in- (610 mm-) deep stainless steel countertop and metal cabinets and wire shelves for food, utensil, equipment and supply storage.</p> <p>See Appendix D for sample equipment lists.</p>

Type 1 FF&E	See Appendix D for sample equipment lists. Provide one stainless steel food cart for every CAR and space in the kitchen to store them. Provide a small office area with desk, chair, and file storage for food and supply orders. Provide fire extinguisher.
Type 2 FF&E	See Appendix D for sample equipment lists. Computer, printer, and phone for office area.
Special Requirements	Provide air curtains or air locks on the exterior doors. Provide lockable storage for dry food storage. Deep-fat fryers are not permittedSee Appendix E for sample layouts. Comply with <i>USDA Program Aid Food Service Equipment Guide for Child Care Institutions</i> . Include a food service specialist on the design team that is a member of the Foodservice Consultant Society.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-9. Laundry.

Description/ Usage	The laundry room must be accessible only to adults. Locate it near the infant/pre-toddler CARs and an exterior wall. Room configuration and equipment must meet ABA requirements.
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide windows and doors per Chapter 3, Windows and Doors and Interior Construction.
Finishes	Walls. Epoxy painted CMU or water-resistant gypsum wallboard. Provide rub rails and metal/high-impact plastic corner guards. Floor. Sealed concrete, or seamless vinyl. Ceiling. Epoxy painted gypsum wallboard ceilings that comply with ASTM C1396/C1396M, Section 12, <i>Gypsum Ceiling Board</i> .
Plumbing	Provide connections to each of the washing machines and one single-compartment laundry tub, minimum size 22 in. D by 24 in. W by 13 in. (550 mm D by 600 mm W by 325 mm) depth of tub. Provide floor drains. Provide recessed plumbing cabinets for each utility connection to the machines.
HVAC	Provide system per Chapter 3. In addition, provide a minimum of six air changes per hour with all dryers running, a maximum of 50% relative humidity, and negative pressure. Each dryer must be vented directly and independently to the outside. Do not vent the dryer exhaust near a building entrance or into an outdoor play area. Provide ventilation in accordance with ANSI/ASHRAE 62.1 requirements for “Laundry Rooms, Central”.
Fire Protection and Life Safety	Provide system per Chapter 3, “Fire Protection and Life Safety”. Provide one-hour rated construction and 45-minute-rated door with self closer and rated vision panel—see Special Requirements. Provide a smoke detector.
Power	Provide system per Chapter 3, “Electrical”. If washers and dryers are hard-wired (non-plug connected), provide wall-mounted safety disconnect switch within sight of the equipment it controls.
Lighting	Provide system per Chapter 3, “Electrical”.
Communication	CCTV. None required. CATV/Internal Video. None required. Intercom. Provide system remote. Telephone. None required. Data. None required.
Security System	None required.
Acoustics	Design space to comply with Chapter 3, “Interior Acoustics”, and provide partition construction with a minimum STC rating of 50.
Casework/ Built-in Equipment	Provide a built-in folding table and shelves for storage. Provide a spacer between the dryers and the wall to preclude the dryer vent from become compressed due to dryer movement.
Type 1 FF&E	Provide large, heavy-duty, front-loading residential washers and dryers: <ul style="list-style-type: none"> • Small. One washer and two dryers. • Medium. Two washers and three dryers. • Large and Extra Large. Two washers and three dryers. Covered containers for soiled laundry.
Type 2 FF&E	None required.

Special Req.	Achieve the one-hour rating with rated wall assemblies that extend to roof deck. Provide easy access to rear of dryers to allow easy maintenance and cleaning of vents (see HVAC). Coordinate door openings and dimensions with room layout and equipment sizes, e.g., laundry carts, washers, dryers. Provide acoustical measures to control the noise/vibration of the washers and dryers. The laundry room should not be visible from the lobby area.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

4-3 CHILD ACTIVITY AREAS.

Tables 4-10 through 4-10.4 provide the criteria for the CARs and their subspaces. Table 4-11 provides the criteria for the optional multipurpose room. Criteria for the outdoor activity areas are provided in Chapter 5.

The child interest centers described in Table 4-10.4 are the required subareas of the activity space within the CAR. They are defined primarily through operational considerations, such as furniture placement, but it will be helpful for the designer to understand the types of activities that will take place in these rooms. Not every CAR will include all these subspaces.

Table 4-10. Child Activity Rooms

Description/ Usage	Provides age-appropriate child activity areas and functional support spaces in a self-contained environment. These rooms are sized per Chapter 2, "Child Activity Rooms". Activities include developmental, play, eating, sleeping, and all other activities pertaining to a child's care. See special requirements for age-specific design considerations. See Tables 4-10.1 through 4-10.3 for subspaces of the CARs.
Ceiling Ht.	8 ft. (2.44 m) minimum; 9 ft. (2.74 m) maximum.
Windows/Doors	Provide windows and doors per Chapter 3, Windows and Doors and Interior Construction. Provide full-lite doors at all CARs. Provide interior windows from activity rooms to corridors at 42 in. (1070 mm) above finished floor, a minimum of 36 in. (915 mm) high, and a minimum of 15 ft. ² (1.39 m ²) total window area (no horizontal members blocking view of either adults or children). Do not use folding or sliding doors. Provide finger guards on the hinge edge of both the interior and exterior sides of all activity room doors up to 48 in. (1220 mm) minimum above finished floor. Plastic accordion-style finger guards are not allowed. In cold climates, provide a vestibule at the exterior exit. One vestibule can serve two rooms. If a vestibule is provided, comply with Chapter 3, but use a non-latching type interior door with a hydraulic door closer and integral hold-open device and only install panic egress hardware on the exterior door. Exterior doors must be designed to open and allow easy maneuverability of the evacuation cribs onto the paved egress path.

Table 4-10. Child Activity Rooms

Finishes	<p>Walls. Provide high performance architectural latexcoated (MPI no. 140) dual-layer gypsum board with outside layer of lower 4 feet of wall being impact resistant. Provide continuous vinyl bumper rail at the selected crib/equipment heights. Provide heavy vinyl bumpers on all corners.</p> <p>Floor. Seamless rubber, sheet vinyl or linoleum sheet with resilient base. See Tables 4-10.1 through 4-10.4 for flooring requirements for specific subspaces.</p> <p>Ceiling. ACP.</p>
Plumbing	See Tables 4-10.1 through 4-10.3 for subspace plumbing requirements.
HVAC	<p>Provide system per Chapter 3. In addition, maintain 35 to 50% humidity and maintain 68°F (20°C) minimum and 78°F (26°C) maximum. Use general ventilation rates per ANSI/ASHRAE 62.1, "Education Facilities, Daycare (through age 4)." See Tables 4-10.1 through 4-10.3 for ventilation rates of subareas.</p> <p>Provide DDC temperature sensor mounted in wall recess at 12 in. (305 mm) above finished floor for monitoring only.</p> <p>Provide uniform air velocities of no more than 30 ft. (9.14 m) per minute 12 in. (305 mm) from the floor in all child activity spaces, unless otherwise noted.</p> <p>For safety of the children, provide individual room control and locate thermostats 54 in. (1370 mm) above the floor. Incorporate night and weekend setback capability. Use room thermostats that adjust accordingly to maintain the appropriate temperature as measured by the DDC sensor.</p> <p>Locate or protect heating surfaces to ensure children cannot come in contact with surfaces above 110°F (43°C). Do not specify equipment that interrupts continuous and flat wall space at child levels that could accommodate perimeter activity areas. In climate zones 5 through 8 provide a supplemental, under-floor, hydronic radiant heating system in infant and pre-toddler CARs. Radiant floors must have in slab temperature sensors. Provide under floor slab R-10 insulation for climate zones 3 through 7 and R-15 insulation for climate zone 8.</p>
Fire Protection and Life Safety	Provide system per Chapter 3, Fire Protection and Life Safety. Do not provide exit signs in the room. Provide a manual pull station at the exterior door.
Power	Provide system per Chapter 3, Electrical. Coordinate all powered equipment locations with the program personnel identified in Chapter 1, Regulatory Authorities, and place outlets accordingly to eliminate the need for extension cords. For safety of the children, the top of the electrical outlet boxes must be 54 in. (1370 mm) above finished floor. In infant and pretoddler CARs, coordinate the location of cribs with the personnel identified in Chapter 1, Regulatory Authorities, and do not locate outlets within reach of children in cribs. This may require deviations from the frequency and height of outlet criteria noted above and must be carefully coordinated with program personnel.
Lighting	Provide system per Chapter 3, Electrical. Provide lighting with automatic controls and multi-level switching. Maintain a minimum of 1 fc (10 lux) at all times to accommodate child observation requirements but do not exceed 5 fc (50 lux) for sleeping. Normal operating light levels are 20 fc (200 lux) general ambient and 30-40 fc (300-400 lux) task lighting at the counters. Provide emergency lighting to illuminate the entire room floor area to a minimum of 1 ft. candle (10 lux).
Communication	<p>CCTV. Provide a minimum of two outlets and ensure full coverage.</p> <p>CATV/Internal Video. Provide one outlet.</p> <p>Intercom. Provide hands-free capability and system remote with a handset for private conversations.</p> <p>Telephone. None permitted.</p> <p>Data. Provide outlets as required for equipment.</p>
Security System	None required.

Table 4-10. Child Activity Rooms

Acoustics	Design space to comply with Chapter 3, Interior Acoustics, and provide partition construction with a minimum STC rating of 50. The CAR's anticipated peak noise level is 70-80 dBA. The preferred sound level is 35-40 dBA, maintained for at least 80 percent of the time.
Casework/ Built-in Equipment	<p>Cubby Storage Area. Provide pre-manufactured, compartmentalized, open-front cubbies with top shelf, anchored to the floor and/or wall. Provide an individual cubby for each child. Provide 36 in. (915 mm) of clear space directly in front of cubbies.</p> <ul style="list-style-type: none"> • Infant/Pre-toddler. Provide 10 individual 12-in.-wide, 18-in.-high, and 15-in.-deep (305-mm x 455-mm x 380-mm) cubbie compartments. Cubby units must have solid raised base for floor applications. • Toddler/Preschooler. Provide 14 individual 12-in.-wide, 42-in.-high, and 15-in.-deep (305-mm x 1,220-mm x 380-mm) cubbie compartments. Provide two safety hooks in each cubbie. Provide a 10-in-high (255-mm) bench for child use. • Preschooler/Pre-K/K. Provide 24 individual 12-in.-wide, 42-in.-high, and 15-in.-deep (305-mm x 1,220-mm x 380-mm) cubbie compartments. Provide two safety hooks in each cubbie. Provide a 10-in-high (255-mm) bench for child use. <p>Other. Provide magnetic locks to any storage cabinets within a child's reach that allow a child to open the door from the inside.</p> <ul style="list-style-type: none"> • Infant/Pre-toddler. Provide a minimum of 60 in. (1525 mm) linear length of 1- to 1.2-in.- (25- to 30-mm-) diameter grab bars with rounded corners at 18 in. (455 mm) above finished floor level to aid infants to pull to standing position. Provide a shatter-resistant child safety glass mirror with safety edges. Locate the bottom edge at finished floor and the top at a minimum of 30 in. (760 mm) above finished floor. <p>Laundry equipment is not permitted in the CARs. Provide a parent-teacher board at the entry to each of the CARs. Provide CCTV cameras, with a minimum of two, to ensure full coverage of all areas within room.</p>
Type 1 FF&E	See Appendix D for more information on FF&E. Infant/Pre-toddler. Cribs used for sleeping and emergency evacuation. Cribs must be of durable construction, be narrow enough to pass through a door with a 32 in. (813 mm) clear opening, and have sturdy caster wheels approximately 4 in. (100 mm) in diameter. The evacuation crib must be able to support and transport a minimum of four 18-month-old children weighing a total of 120 lbs. (55 kg).
Type 2 FF&E	See Appendix D for more information on user-provided FF&E.
Special Requirements	<p>Room Design. The ideal room width to length ratio is 3:2. Do not create blind spots in the room and ensure that caregivers have full visual access over all areas of the room without the use of mirrors to achieve full visual access. Color-coding can be used to differentiate spaces for each age group or activity room.</p> <p>Interior construction. Construct a partitioned, lockable general storage closet sized per Chapter 2, Child Activity Rooms, that can be opened from the inside without the key. The closet door must have a vision panel per Chapter 3, Interior Construction. Provide adjustable shelving in the closet; leave open floor space for stacked cot storage. Demountable and retractable partitions are not permitted in the CAR.</p> <p>Infant/Pre-toddler. Cribs must be directly observable by caregivers. Indicate location on plans of all major equipment using dotted lines to ensure proper fit and clearances.</p> <p>Toddler/Preschooler. Provide wider pathways to and within uninterrupted activity space to accommodate increased mobility.</p> <p>Preschooler/Pre-K/K. The uninterrupted activity space must be a large, open, flexible area that allows unrestricted movement.</p>

Table 4-10. Child Activity Rooms

For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-10.1. CAR Toilets

Description/ Usage	Provides age-appropriate toilet for children only. Where information is not provided in this table, use the criteria in the child activity room table.
Finishes	<p>Walls. Provide high performance architectural latex coated (MPI no. 140) paint on mold-resistant gypsum wall board with an FRP wainscot.</p> <p>Floor. Seamless rubber sheet goods with the edges turned up the walls a minimum of 6 in. (150 mm) to form an integral covered base.</p> <p>Ceiling. ACP.</p>
Plumbing	<p>Sinks must have single-action, pre-mixing, automatic shut-off controls mounted within 14 in. (355 mm) of the leading edge of the lavatory.</p> <p>Provide a floor drain.</p> <p>Infant/Pre-toddler. Provide one child water closet with a rim height of 10 in (250 mm) and flush controls 20 to 30 in. (510 to 760 mm) above finished floor.</p> <p>Provide one child hand-washing sink, 18 - 20 in. deep, mounted at 22 in. (550 mm) above finished floor with 19 in. (480 mm) clearance for knee space.</p> <p>Toddler/Preschooler. Provide a minimum of two child water closets with a rim height of 11 in (280 mm) and flush controls 20 to 30 in. (510 to 760 mm) above finished floor.</p> <p>Provide two child hand-washing sinks, 18 - 20 in. deep mounted at 22 in. (560 mm) above finished floor with 19 in. (480 mm) clearance for knee space.</p> <p>Preschooler/Pre-K/K. Provide a minimum of two child water closets with a rim height of 12 in (280 mm) and flush controls 20 to 30 in. (510 to 760 mm) above finished floor.</p> <p>Provide two child hand-washing sinks, 18 - 20 in. deep mounted at 22 in. (560 mm) above finished floor with 19 in. (480 mm) clearance for knee space.</p>
HVAC	Provide 200 cfm (94 L/s) exhaust over the general toilet area. Exhaust to operate continuously when lights are on in the CAR.
Casework and Built-in Equipment	<p>Provide toilet-tissue dispenser at each water closet at 14 in (355 mm) above finished floor and within reach of a child on the water closet. Provide a hands-free paper towel dispenser without serrated edges at each lavatory.</p> <p>Provide a shatter-resistant mirror over the sink with the bottom edge no higher than 29 in (740 mm) above finished floor. Also provide an additional full-height shatter-resistant child safety glass mirror with safety edges and the bottom edge no higher than 18 in (455 mm) above finished floor.</p> <p>Toddler/Preschooler. Provide partitions between the water closets with the bottom of the partition at 9 in (230 mm) above finished floor and the top of the partition no higher than 36 in (915 mm). Preschooler/Pre-K/K. Provide partitions between the water closets with the bottom of the partition at 6 in (150 mm) above finished floor and the top of the partition no higher than 42 in (1065 mm). If a school-age care program is combined with a CDC, see Chapter 2, Facility Planning, for additional requirements.</p>
Type 1 FF&E	None required.
Type 2 FF&E	None required.
Special Requirements	The water closets must not be visible from the door and corridor windows and must be screened from the rest of the room with partial height partitions constructed to 42" AFF, but no door. Design to accommodate easy supervision and the amount of congestion that can occur in the toilet, especially before meal times. Lavatories must be located in the same space as the water closet, but open and visible to the rest of the room.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-10.2. CAR Diaper Changing Area

Description/ Usage	Provides diapering station and diaper storage in every CAR. Caregivers must have a clear view of the room while standing at the changing table. Where information is not provided in this table, use the criteria in the child activity room table.
Finishes	Walls. Provide high performance architectural latexcoated (MPI no. 140) dual-layer gypsum board. Provide heavy vinyl bumpers on all corners. Provide an impervious wall finish on walls directly adjacent to the changing counter that will withstand continuous cleaning. If low walls are used, provide a solid surface cap at the required height of 42" AFF. Floor. Seamless sheet vinyl with an integral cove base. Ceiling. ACP.
Plumbing	Provide one deep, underhung sink with a swivel goose neck faucet, hands-free operation with a 30 second shut-off with use of foot, automatic, or wrist blade controls. Decision for faucet control type to be made by facility operator. Provide a dedicated shut-off valve.
HVAC	Provide a minimum of 150 cfm exhaust grille directly over the diaper changing area, served by a central exhaust system that operates continuously during facility operating hours.
Power	Do not provide any receptacles in this area.
Casework/ Built-in Equipment	Provide a 34-in.-high, 24-in.-deep (865 x 610 mm) solid-surface changing counter with integral storage underneath and integral, retractable steps that lock in place. Changing counter surface must be a minimum of 36 in. (915 mm) long for the infant/pre-toddler CAR and a minimum of 48 in. (1220 mm) long for the toddler and preschooler CARs. Provide a safety lip on either side of the changing surface area that extends 3 in. (75 mm) above the surface of the mat (mats are typically 1 in. (25 mm) thick). Lip must be constructed of same material as counter. This changing surface must be directly adjacent to the sink and allow for individual to reach sink when standing at the changing area. Provide hands-free paper towel (cone-type), soap, glove, and plastic bag dispensers within reach of the caregiver at the table. Provide 10 compartmentalized cabinets 9-in.-wide, 9-in.-high, and 12-in.-deep (230 x 230 x 305 mm) for storage of diapers and products. Ensure that cabinets do not inhibit the child from standing on the changing surface.
Type 1 FF&E	Two foot-operated, covered containers within reach of the caregiver standing at the changing table: one for soiled disposable diapers and one for laundry. The diaper container must be waterproof, washable, and have an airtight lid.
Type 2 FF&E	None required.
Special Requirements	Provide magnetic locks to any storage cabinets within a child's reach that allow a child to open from the inside.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-10.3. CAR Adult Sink with Counter

Description/ Usage	Provides space to store and heat individual bottles and food in every CAR. This area must be physically separated from the Diaper Changing Area. Where information is not provided in this table, use the criteria in the child activity room table.
Finishes	Walls. Provide high performance architectural latexcoated (MPI no. 140) dual-layer gypsum board. Provide heavy vinyl bumpers on all corners. Floor. Seamless sheet vinyl with resilient base. Ceiling. ACP.
Plumbing	Provide one sink with a single-lever faucet and a dedicated shut-off valve.
Power	Provide a duplex outlet for the refrigerator. Provide a counter-height GFCI duplex receptacle at least 2 ft. (610 mm) from the edge of the sink for appliances.
Casework/ Built-in Equipment	Provide a 34-in.-high, 96-in.-long (865 x 2440 mm) solid-surface counter with base cabinets, the integral sink, and a 4-in. (100-mm) high, integral backsplash. The cabinets must have heavy-duty hinges, non-protruding handles/pulls/hardware, and easily-cleanable surfaces. Provide one lockable cabinet. If upper cabinets are provided, ensure the caregiver will have visual access of the room while standing at the food preparation area. Base cabinet doors and drawers must have recessed finger pulls. In infant and pre-toddler rooms, provide a 5 ft. ³ (.23 m ³) minimum, under-counter ADA-compliant refrigerator.
Type 1 FF&E	See Appendix D for FF&E.
Type 2 FF&E	None required.
Special Requirements	Physically separate this area from the diaper changing area to meet sanitation requirements. Do not locate this area under any sanitary or drain lines running through the ceiling. Provide magnetic locks to any storage cabinets within a child's reach that allow a child inside to open from the inside.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-10.4. Child Interest Centers

Space	Description/Functions	Design Considerations
Blocks	Out-of-way area for children to build with and to store blocks and other props.	Typically located in a corner with soft-surface flooring.
Dramatic play	Area geared for creative and imaginative play activities.	Typically includes soft-surface flooring and wall mirrors.
Toys and games	Area for table-top and floor toy and game play.	Typically double functions as eating area with child-size tables and chairs and hard-surface flooring.
Art	Area for visual art activities	Typically double functions as eating area with child-size tables, chairs, and easels and hard-surface flooring. Provide means to display artwork and locate near a sink.
Library	Area for reading, writing, story telling, and storage of books and writing supplies.	Typically includes soft-surface flooring, comfortable seating, and bookshelves.
Discovery	Area for preschool children to participate in various investigation activities.	Hard-surface flooring with sensory tubs and nature collection storage.
Sand and water	Area for small-scale indoor sand and water play.	Hard-surface flooring with sand and water tubs. Locate near a sink.
Music and movement	Area for music and movement activities, including both recorded and child-generated music.	Typically includes soft-surface flooring and storage for music player, music, and instruments.
Cooking	Area for preschool children to participate in simple food preparation activities.	Hard-surface flooring with storage space for a mobile cooking cart. Locate near a sink.
Computers	Area for preschool children to access computers.	Typically includes soft-surface flooring with child-size desks and chairs.

Table 4-11. Multipurpose Room

Description/ Usage	This optional space accommodates children 24 months to 6 years of age for large group activities, wheel toy play, exercise, group games, or indoor play in extremely hot or cold climates. This room can also support other activities such as parenting classes and staff training. Service contacts provided in Chapter 1, Regulatory Authorities, must provide approval for inclusion of this space.
Ceiling Ht.	10 ft. (3.1 m) minimum and 12 ft. (3.7 m) maximum.
Windows/Doors	Provide windows and doors as in the CARs per Chapter 3, Windows and Doors and Interior Construction. Provide an interior window from the multipurpose room to the corridor at 42 in. (1070 mm) above finished floor, a minimum of 36 in. (915 mm) high, and a minimum of 10 ft. ² (.93 m ²) total window area (no horizontal members blocking view of either adults or children). Do not use folding or sliding doors. Provide finger guards on the hinge edge of both the interior and exterior sides of all activity room doors up to 48 in. (1220 mm) minimum above finished floor. Plastic accordion-style finger guards are not allowed.
Finishes	Walls. Provide high performance architectural latexcoated (MPI no. 140) dual-layer gypsum board. Provide heavy vinyl bumpers on all corners. Floor. Seamless sheet vinyl with resilient base. Ceiling. ACP.
Plumbing	None required.
HVAC	Provide system per Chapter 3, HVAC. In addition, maintain 35 to 50% humidity, and maintain 68°F (20°C) minimum and 78°F (26°C) maximum. Exhaust rates must match child activity areas. Provide DDC temperature sensor mounted in wall recess at 12 in. (305 mm) above finished floor for monitoring only. Provide uniform air velocities of no more than 30 ft. (9.14 m) per minute 12 in. (305 mm) from the floor in all child activity spaces, unless otherwise noted. For safety of the children, provide individual room control and locate thermostats 54 in. (1370 mm) above the floor. Incorporate night and weekend setback capability. Use room thermostats that adjust accordingly to maintain the appropriate temperature as measured by the DDC sensor. Locate or protect heating surfaces to ensure children cannot come in contact with surfaces above 110°F (43°C). In climate zones 5 through 8 provide a supplemental, under-floor, hydronic radiant heating system in infant and pre-toddler CARs. Radiant floors must have in slab temperature sensors. Provide under floor slab R-10 insulation for climate zones 3 through 7 and R-15 insulation for climate zone 8.
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety".
Power	Provide system per Chapter 3, "Electrical". Coordinate all powered equipment locations with the program personnel identified in Chapter 1, Regulatory Authorities, and place outlets accordingly to eliminate the need for extension cords. For safety of the children, the top of the electrical outlet boxes must be 54 in. (1370 mm) above finished floor.
Lighting	Provide system per Chapter 3, Electrical. Provide emergency lighting to illuminate the entire room floor area to a minimum of 1 ft. candle (10 lux).

Table 4-11. Multipurpose Room

Communication	<p>CCTV. Provide outlets required for full coverage CATV/Internal Video. Provide one outlet. Intercom. Provide system remote with a handset for private conversations. Telephone. None required. Data. Provide outlets as required for equipment.</p>
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics", and provide partition construction with a minimum STC rating of 50.
Casework/ Built-in Equipment	Provide a lockable storage closet that can be opened from the inside without a key. Provide CCTV cameras, with a minimum of two, to ensure full coverage of all areas within room.
Type 1 FF&E	None required.
Type 2 FF&E	None required.
Special Requirements	Provide natural light from non-breakable skylights or a clerestory. Demountable and retractable partitions are not permitted in the multipurpose room.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-12. Nursing Room

Description/ Usage	This space provides privacy for a mother to nurse her child. Locate near the infant and pre-toddler rooms.
Ceiling Ht.	8 ft. (3.1 m) minimum and 10 ft. (3.7 m) maximum.
Windows/Doors	Provide windows and doors per Chapter 3, "Windows and Doors and Interior Construction". Windows and doors require privacy while in use.
Finishes	Walls. Painted gypsum wall board. Floor. Seamless sheet vinyl with resilient base. Ceiling. ACP.
Plumbing	Provide integral sink as described in "Casework/Built-in Equipment".
HVAC	Provide system per Chapter 3, "HVAC".
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety".
Power	Provide system per Chapter 3, "Electrical". Provide a quad outlet over counter.
Lighting	Provide system per Chapter 3, "Electrical". Lights remain on during operating hours with dimming capability.
Communication	CCTV. None required. CATV/Internal Video. None required. Intercom. Provide system remote with a handset for private conversations. Telephone. None required. Data. None required
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics".
Casework/ Built-in Equipment	Provide a diaper changing counter with integral storage underneath for the infants/pre-toddlers as described in Table 4-10.2, CAR Diaper Changing Area. Also provide a counter with base cabinets and an integral sink as described in Table 4-10.3, CAR Adult Sink with Counter.
Type 1 FF&E	None required.
Type 2 FF&E	None required.
Special Requirements	None required
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

Table 4-13 Nurses Office

Description/ Usage	This Marine Corps -only space provides a private room to isolate a sick child from the rest of the children until a parent can pick him or her up. Locate in the Administration area.
Ceiling Ht.	9 ft. (2.74 m) minimum.
Windows/Doors	Provide windows and doors per Chapter 3, "Windows and Doors and Interior Construction".
Finishes	Walls. Epoxy painted gypsum wall board. Floor. Sheet vinyl with integral base. Ceiling. ACP.
Plumbing	Provide sink.
HVAC	Provide system per Chapter 3, "HVAC". Use ventilation rates per ANSI/ASHRAE 62.1, "Education Facilities, Daycare Sickroom."
Fire Protection and Life Safety	Provide system per Chapter 3, "Fire Protection and Life Safety".
Power	Provide power per Chapter 3, "Electrical". For safety of the children, the top of the electrical outlet boxes shall be 54 in. (1370 mm) above finished floor.
Lighting	Provide system per Chapter 3, "Electrical". The lights shall be controlled automatically to remain on during facility operating hours.
Communication	CCTV. None required. CATV/Internal Video: None required. Intercom. Provide a system remote. Telephone. Provide one line. Data. Provide one data outlet.
Security System	None required.
Acoustics	Design space to comply with Chapter 3, "Interior Acoustics".
Casework/ Built-in Equipment	
Type 1 FF&E	Provide desk with lockable file drawers, 2 chairs, lockable file cabinet and lockable medicine cabinet.
Type 2 FF&E	
Special Requirements	Provide floor space for a cot.
For use during project execution by the appropriate Service agency	
Occupancy	Staff. Customers.
Min. net m² (ft²)	

CHAPTER 5 OUTDOOR ACTIVITY AREAS

5-1 INTRODUCTION/PURPOSE.

The Outdoor Activity Area provides outdoor play activities for all age groups. It supports a program of activities and, as such, is an extension of the interior activity room space.

Design the play environment to allow a wide range of movement; stimulate the senses; offer novelty, variety and challenge; and be safe and comfortable. Ensure novelty by incorporating both simple and complex features. Incorporate textures such as sand, water, grass, flowers, trees, and smooth rocks (and other artifacts of nature) within the natural environment. Incorporate manufactured textures of wood, metal and plastic as well as elements that respond when acted upon within the play environment. Design the play environment to be open to many interpretations and uses in order for the child to exercise his or her power to manipulate it. Do not design the environment to impart preconceived notions of how to act or respond to the surroundings. With appropriate supervision, children will actively manipulate, transform, dismantle, and re-create the environment in order to learn about the makeup of the world.

5-2 PLANNING CRITERIA.

5-2.1 Size.

Provide a minimum of 130 ft.² (12.1 m²) per child for 50% of each age group's capacity. Larger outdoor activity areas can be provided if approved by the regulatory authorities in Chapter 1.

5-2.2 Grade.

Provide a minimum slope of 1 percent for all paved areas and 2 percent of all grassed areas. The maximum slope is 5 percent throughout the entire outdoor activity area.

5-2.3 Layout.

Do not create blind spots or hidden areas within the playgrounds. Ensure design accommodates adult visual supervision of children at play, and avoid creating areas where unsupervised mischief or child abuse can occur. Ensure depth of outdoor areas allow for providing emergency exit pathways, play and shade structures.

5-2.3.1 Utilize Existing Features.

Preserve natural landscape features, including existing topography, trees, and vegetation, and supplement as needed to provide a varied natural environment. Ensure that natural features such as hills and nature areas are accessible to everyone and that plants and vegetation are non-toxic and don't have seeds or other elements that could be choked on. Trees that drop nuts or species subject to high deadfall limbs are not permitted. Integrate plants into the entire play area rather than provide isolated nature areas.

5-2.3.2 Utilities.

The only utilities permitted in the outdoor activity area are those actively supporting the outdoor activity area. Do not locate mechanical equipment, transformers, storm drains, and manholes in the outdoor activity area.

5-2.3.3 Drainage.

Provide proper drainage on the site and under the playground equipment to permit use of the outdoor activity area after inclement weather. See Chapter 3, "Site Design", for additional grading and drainage criteria.

5-2.3.4 Adjacencies.

Design outdoor play areas to directly adjoin the CDC building. Locate age-specific play areas immediately adjacent to the age-appropriate CARs. Locate play areas in view of the CARs they serve.

5-2.3.5 Access and Exiting.

Provide a minimum of two access points: One from the CAR into the outdoor activity area, and one from the outdoor activity area to the outside site. Design the outside site access point to allow the retrieval of play equipment (i.e., balls). Additionally, provide an accessible pathway between the age specific outdoor activity areas that is surfaced in a maintenance free material. Design to accommodate the movement of maintenance equipment into the play area and allow an emergency exit. Pave the main entrance pathway from the outside site into the activity areas.

5-2.3.6 Climate Considerations.

Accommodate the prevailing weather patterns that can affect children's comfort. For example, if sited in an area with prevalent northerly winds, locate the play areas on the south side of the building. Provide natural wind breaks (trees) for extra protection from the elements.

5-3 GENERAL DESIGN CRITERIA.

Design the outdoor play area to support a program of activities and be conducive to creative play. To the degree that climate permits, design the outdoor activity area to accommodate many indoor activities—it is an extension of the interior activity room space. The play program encourages children to interact with the environment, each other, and the caregivers either in free play or through planned and structured activities. A certified playground safety inspector that has current certification from the National Playground Safety Institute that is not affiliated to an equipment manufacturer must design the outdoor activity area or review and approve the final design.

Integrate play areas, to the greatest extent possible, into the overall design of the center. Ideally, design the indoor and outdoor spaces simultaneously so that a proper link can be made to join the two spaces. The outdoor activity area is divided into age-

specific areas that correspond to the facility child activity rooms. General design criteria that apply to all ages and portions of the outdoor activity area are provided below.

5-3.1 Accessibility.

It is the policy of DoD to integrate children with special needs into the outdoor play environment with their appropriate group. To accomplish this, provide a diversity of play opportunities and equal opportunity for all children regardless of ability. Discuss accessibility needs with the CDC staff before starting the design, and note the following information.

5-3.1.1 Accessibility Pathways.

Provide an accessible pathway throughout the play area. Provide a safety-surfaced path for a wheelchair to approach, but not roll onto, manufactured play equipment. Do not provide access ramps that allow trike access onto equipment. The optimum solution is to provide an accessible surface up to the equipment and provide transfer platforms to help the child onto the equipment. Design play structures and play areas to be accessible. Provide specially designed decks and railings for transfer out of wheelchairs and onto equipment.

5-3.1.2 Access to Use Zone Surfacing.

Meet zone criteria for surfacing, but also design for wheelchairs to allow accessibility where possible. Use zone criteria take priority over equipment accessibility.

5-3.1.3 Sensory Rich Materials.

Provide a variety of materials to stimulate and entertain children, including those who are visually impaired, hearing impaired or who have other special needs.

5-3.1.4 Special Requirements.

For requirements to accommodate children who are severely handicapped in the child development program, consult with the contacts provided in Chapter 1, "Regulatory Authorities".

5-3.2 Exterior Storage.

Provide enclosed, weather-tight, vandal-proof and lockable storage in each age-specific outdoor activity area. Storage size must be 100 ft.² (9.3 m²) per infant/pre-toddler and toddler play area, and 150 ft.² (13.9 m²) of storage space per pre-school play area. Comply with the following:

- Locate storage to be readily accessible to the age-specific activity area and so it does not create any blind spots in any portion of the Outdoor Activity Area.
- Connect the storage to the activity areas with ABA-accessible hard-surface pathways.

- Detached facilities require ventilation only.
- The floors must be concrete sloped to the door for drainage.
- Interior clear height must be a minimum of 7 ft. (2135 mm).
- Provide heavy-duty adjustable shelving, 2' deep, able to support 100 pounds per linear foot.
- Provide doors 4 ft. to 6 ft. (1220 mm to 1830 mm) wide with a 5 SF vision panel. Doors must swing outward, include finger guards, and be equipped with vandal-proof hardware and keyed locks that can be opened from the inside without a key.
- Where possible, locate any storage unit not physically attached to the building with the storage unit door to be in-line with the playground fence and set the rest of the storage unit outside of the playground.

5-3.3 Fencing.

At a minimum, enclose the perimeter of the entire outdoor activity area with a 5 ft. (1520 mm) high fence. Add or position planting or landscape features to preclude an adult from reaching over the fence. Facility planners must submit site plans to the contacts identified in Chapter 1, "Regulatory Authorities", to determine if a taller fence or solid wall is required. When the outdoor activity area is adjacent to hazards, busy roadways, or is in a high security risk neighborhood, enclose the perimeter of the entire outdoor activity area with an 8 ft. (2440 mm) high fence.

Enclose each age-specific area within the perimeter with a 3 ft. to 5 ft. (915 mm to 1520 mm) high fence or provide buffer areas between age-specific areas where appropriate. Buffer areas can be created by using landscape elements to divide the children from one area to another. Provide passage gates between age-specific areas.

Comply with the following in the design of the fences.

- The fence design must be compatible with the architecture of the CDC and be more than simply utilitarian. Provide a combination of fencing materials to avoid an institutional effect. Black or dark green vinyl-coated chain link is the preferred fence material. Exposed galvanized wire is not permitted. Do not make fences out of wood.
- Use bollards, raised planters, or other devices to protect play areas located next to driveways or roads where cars could swerve into the play area.
- Fences must have smooth caps, be selvage knuckled, with no finials or sharp picket tops. The fencing components must not expose sharp points or edges that could cut or puncture children's skin. All fastening devices used for fence construction must be turned sideways or must not project perpendicular to the fence surface beyond .125 in. (3.2 mm). Finials or sharp picket tops are permitted only on the 8 ft. (2440 mm) high perimeter fences.

- The fence bottom must either be secured to a bottom rail or be buried a minimum of 3 in. (75 mm) below grade.
- Fencing gaps between vertical elements, such as at gates and at connecting points to the building, must be no more than 3.0 in. (75 mm).
- No openings in the fence must be between .375 in. (9 mm) and 1 in. (25mm) in size as pinch protection.
- Additional information on entrapment dimensions is provided in *CPSC Public Playground Safety Handbook*.
- Coordinate gate sizes to accommodate the evacuation cribs (See Chapter 4, “Child Activity Rooms”).
- Perimeter emergency egress gates must only be operable from the interior side with panic hardware, have adult-controlled securing devices to prevent child operation, and pinch/crush protection on the hinges. In addition, design the gate to preclude operation by an adult reaching over the fence from the exterior side as a child-abuse prevention measure.
- Provide at least one access gate that is 10 ft. to 12 ft. (3050 mm to 3650 mm) wide for emergency or service vehicles.
- Ensure that fences do not impede caregiver supervision of children.
- Design fences to discourage climbing. Do not use horizontal slats or horizontal rails. Design walls or structures used for barriers to discourage climbing. Design fences to be capable of withstanding code specific force applied horizontally.

5-3.4 Shade.

Shade is a requirement for the CDC to receive DoD certification. Provide each age-specific activity area with a structure or structures to provide shelter from the sun and inclement weather. At a minimum, provide whichever is greater: 10 percent shaded area per each age-specific area or a minimum of 15 ft.² (1.4 m²) per child for the maximum number of children occupying the areas at any one time (see Chapter 5, “Planning Criteria”). At a minimum, 50 percent of each play area must be exposed to direct sunlight during the morning and afternoon use periods.

Shade structures include exterior screened rooms, park shelters, awnings, porches, gazebos, and umbrellas. Supplement structures with trees and other natural landscaping. All structures must provide a minimum shaded area of 6 ft. (1830 mm) in any direction. The degree and orientation of shade will depend on local climatic conditions. Transitional areas such as a patio, deck or platform that serve as a link between interior and exterior spaces are an effective means to provide shade. All shade structures must comply with the criteria provided in Chapter 5, “Equipment Requirements”. Shade structures must conform to architectural and design guidelines of the installation.

5-3.5 Equipment Requirements.

Playground equipment must be included in the MILCON construction to provide a complete and usable facility.

5-3.5.1 Industry Standards.

Playground equipment and shade structures must comply with the minimum standards put forth in the guidelines listed below. In some cases, this FC may include more stringent requirements than those listed. In those cases, follow the criteria identified in this FC. Use the most recent editions of the following publications:

- The Consumer Product Safety Commission (CPSC) *Public Playground Safety Handbook*. (Although the CPSC provides guidelines for unsupervised public play settings for children two years and older, the CDC playground must safely accommodate supervised children as young as 6 weeks of age.)
- ASTM F1292, *Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment*.
- ASTM F1487, *Standard Consumer Safety Performance Specification for Playground Equipment for Public Use*.
- ASTM F1951, *Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment*.
- ASTM F2373, *Standard Consumer Safety Performance Specification for Public Use Play Equipment for Children 6 Months through 23 Months*.
- Accessibility. See additional information in Chapter 3, "Accessibility".

5-3.5.2 Additional DoD Standards.

Show all use zones for play equipment on the site plan to ensure there is no conflict between play activities on the ground and swinging or jumping from the equipment. Do not overlap use zones. The minimum height above ground surface requiring a use zone is 20 in. (500 mm). As a minimum, design the infant crawl space, to include a 4 ft. (1.2 m) distance outside the infant crawl curb, as a use zone.

If young school-age children are using the playground, different use zone criteria apply.

5-3.5.2.1 Selection Criteria.

- **Range.** Provide a sufficient range of equipment to accommodate every type of play—exercise, dramatic, construction, organized games, social—engaged in by the age group served.
- **Novelty.** Select interesting play equipment with both simple and complex features. Group play equipment together to provide a sequence of play opportunities rather than providing single, large, fixed-in-place structures.

Provide for both solitary and social play. Select equipment that can be modified.

- **Flexibility.** Use composite units or super-structures that stimulate a wide range of motor functions. Provide equipment that can be used equally well by one child or by several children simultaneously. Do not select items designed to look like animal forms or other recognizable objects. Use dramatic play props that are adaptable to a range of make-believe roles or themes.
- **Challenge.** Provide equipment that provides clear, graduated stages of accomplishment, e.g., variable-height steps or climbing equipment with landings at different heights.
- **Scale.** Size equipment to match the age and development of child users.
- **Aesthetics.** Design children's playgrounds for aesthetics as well as function. Select equipment colors and styles that are appealing to children and compatible with the facility exterior. Integrate equipment with natural vegetation and landforms.

5-3.5.2.2 Installation Criteria.

The equipment purchasing agreement must include a requirement for the manufacturer to inspect the equipment after installation and confirm in writing that installation conforms to manufacturer's instructions and to CPSC and ASTM Guidelines. Also provide a contractual agreement for a skilled, certified, independent playground safety consultant that has current certification from the National Playground Safety Institute to inspect the entire playground after the installation is completed. Have experienced playground installers conduct or supervise installation.

5-3.5.2.3 Exclusions.

Do not use the following items in the outdoor activity areas, regardless of CPSC or ASTM approval:

- Animal swings, metal and otherwise.
- Wood equipment. Wood equipment is not permitted due to maintenance concerns, unless pre-manufactured and approved by the Service authorities.
- Metal slides. Metal slide surfaces are not allowed.
- Merry-go-rounds.
- Hard-seat swings.
- Trampolines.
- See-saws.
- Zip lines.

5-3.5.2.4 Exceptions and Modifications.

Observe the following exceptions and/or modifications to previous DoD policy or CPSC Handbook and ASTM requirements when selecting equipment for CDC outdoor activity areas:

- Spring toys are allowed if meeting CPSC Handbook and ASTM standards. However, this equipment is discouraged due its limited potential for creative play.
- Tunnels and tunnel slides require view panels. Specify only on preschool playgrounds.
- Use climbing structures that allow for free fall.
- Balance beam criteria vary by age group. Specify the CPSC Handbook standard for balance beams only on preschool playgrounds. For toddler playgrounds, the maximum height for a balance beam is 6 in. (150 mm).

5-3.6 Surfaces.

Use a variety of surface materials, with varying finishes, patterns, textures, and colors to stimulate interest and increase play opportunities. The outdoor activity area has four categories of surface areas with specific requirements: use zones, wheeled toy pathways, other hard surface areas, and general. Transitions between each category of surface areas must not exceed a 2 in. (50 mm) differential in elevation.

5-3.6.1 Use Zones.

Use zones are the areas under and around playground equipment and are defined by ASTM F1487. A required submittal is the commercial playground safety surface manufacturer's warranty and liability in the specifications and transfer to the Using Service. Include a written verification by the manufacturer that the playground safety surface meets the requirements of the CPSC Handbook and ASTM in the submittal section of the specifications.

The Services prefer poured-in-place resilient safety surfaces. Approval from the using Service is required for any other use zone surface material. Do not use the following surface materials:

- Engineered and natural wood fiber.
- Engineered loose rubber and ground tires.
- Any materials that are subject to compaction, ingestion, flammability, and wind dispersion.

5-3.6.2 Wheeled Toy Pathways.

Acceptable materials include concrete and stone and masonry pavers. The edge of pathways must be tapered for transitions and must not create trip hazards. Joints must be not wider than .5 in. (12 mm) because they may cause toys to tip. Adjacent grading

and/or sod installation must be within .75 in. (19 mm) of the pathway surface height and must allow for settlement to minimize replacement. Comply with the following when designing the wheeled toy pathways:

- **Modular paving.** Use non-grouted interlocking type pavers on sand placed over a continuous concrete setting bed. Install brick, stone or other non-interlocking type paving in grout over a continuous concrete setting bed. Do not install non-interlocking paving on sand in play areas, as the modular units may settle unevenly, resulting in a hazardous irregular surface. Where winter freezing is common and where poor soils occur, use a gravel base under concrete and reinforce to prevent cracking and deterioration. Integrally colored pavers are encouraged to create visual interest.
- **Concrete.** Add color additives or surface finishes to improve the appearance of concrete and reduce glare. Avoid smooth steel trowel finishes, which can become slippery when wet. Where winter freezing is common and where poor soils occur, use a gravel base under concrete and reinforce to prevent cracking and deterioration. Cast-in-place concrete over a well-compacted sub-grade is the most durable, maintenance-free paving material for hard surface areas.

5-3.6.3 Other Hard Surface Areas.

These areas include sidewalks, seating areas, patios, and areas for hard-surface games. Use a variety of surface configurations and materials for these areas. Specify compaction during construction. Sidewalks, seating areas, and patios must be concrete or stone and masonry pavers. Use brick and other types of modular paving for sidewalks to reduce the scale of these environments. The edge of sidewalks must be tapered for transitions and must not create trip hazards. Hard-surface game areas must be concrete.

5-3.6.4 General.

This encompasses any portion of the outdoor activity area not included in the other three defined areas. Use surfaces of grass or other natural landscaping. Use grass primarily in open, active play areas, passive play areas, and areas with low traffic levels. Do not use grass where wear and maintenance will become a problem. Locate grass in sunny areas where it will dry out quickly after rain. Artificial turf is not recommended for use as a playground surface; it can be abrasive and convey an unnatural impression. See Chapter 3, Landscaping, for more information on non-paved areas.

5-3.7 Plumbing.

Protect all outdoor water sources from freezing with an underground shut off valve.

5-3.7.1 Drinking Water.

Drinking water is typically provided via a portable cooler and single-use cups managed by the caregiver. However, if budget permits, provide a minimum of one outdoor

drinking fountain with mouth guard and angled jet in each activity area serving children older than 18 months. Provide outdoor fountains with frost-free operation and design to minimize clogging from sand or dirt. Use an appropriate height for the age group served, but do not exceed 24 in. (610 mm).

5-3.7.2 Hose Bibbs.

Provide a minimum of one hose bibb in each play area. Install hose bibbs in a recessed wall box to prevent impact injury. Provide hose bibbs with a frost-free water source and locate directly accessible to outside playgrounds.

5-3.7.3 Misters.

In hot, dry climates and if budget allows, provide misters. Connect misters to the potable water system and provide code-compliant back-flow prevention devices.

5-3.7.4 Irrigation System.

See Chapter 3, "Irrigation", for system criteria.

5-3.8 Electrical.

Provide an outlet on the exterior of the building in each child outdoor play environment located at 54" above finished grade.

5-4 AGE-SPECIFIC AREA DESIGN CRITERIA.

5-4.1 Infant and Pre-toddler.

Separate but do not isolate this activity area from the other age groups. Provide a low fence, hill or other natural feature to separate crawling infants from more active toddlers, but allow easy transition between these areas. The separation must provide visual and audible connections but limit physical contact. Pre-toddlers can use either the infant area or the toddler area depending upon their level of development.

5-4.1.1 Storage.

Provide an individual 100 ft.² (9.3 m²) of storage per room in accordance with Chapter 5, "General Design Criteria".

5-4.1.2 Shade.

Shade is particularly important for infants and pre-toddlers. See Chapter 5, "General Design Criteria", for additional information on shade.

5-4.1.3 Play Areas and Equipment.

Provide small steps, slopes, ground beams, climbing ramps, slight barriers and slides. If swings are provided, use belt-type baby seats with restraints.

5-4.1.4 Surfaces.

Access paths from the CDC must be concrete and double function as emergency egress paths. Modular paving must not be used in this activity area. Play area surfaces must consist of soft, resilient materials that protect crawling children and provide a comfortable surface on which to sit.

5-4.1.5 Exclusions.

Avoid excessive heights, abrupt surface level changes, and rough surfaces. The following items are not permitted in the infant/pre-toddler activity area:

- Treated wood
- Wood chips
- Pea gravel
- Pools of water

5-4.2 Toddlers.

This activity area must accommodate children playing alone, playing in pairs, and playing in small groups.

5-4.2.1 Storage.

Provide an individual 100 ft.² (9.3 m²) of storage per room in accordance with Chapter 5, General Design Criteria.

5-4.2.2 Play Areas and Equipment.

Provide the following play areas and equipment in this activity area:

- Wheeled toy path.
- Sand play area. Provide a sandbox with a retaining border that does not pose a tripping hazard, allows drainage, and will accommodate sand 18 in. to 24 in. (460 mm to 610 mm) deep. Locate the box so it is protected from the wind. Locate the box away from the entrance to the building and the drinking fountain to help alleviate concerns of tracking sand inside and clogging the fountain drain. Locate near storage. Provide raised troughs for wheelchair accessibility. If the sand area is less than 100 ft.² (9.3 m²), provide a cover. In cool, wet climates, locate sand areas in sunny locations and provide a sub-surface drain line system whenever possible to reduce dry out time. In hot, dry climates, provide shade over large sand areas to reduce heat and glare problems.
- Dramatic play area.
- Swings, space permitting. Provide 50 percent bucket-type swings and 50 percent single axis swings

- Multi-purpose area.
- Climbing equipment. Simple, versatile equipment is more appropriate for toddlers than scaled down versions of older children's play structures.
- Semi-enclosed spaces such as small play houses or climb-through tunnels. Climb-through tunnels must include vision panels.
- Small slides.

5-4.2.3 Exclusions.

Avoid excessive heights, abrupt surface level changes, and rough surfaces. The following items are not permitted in the toddler activity area:

- Treated wood
- Wood chips
- Pea gravel
- Pools of water

5-4.3 Preschoolers/Pre-K/Kindergarten.

The Preschool/Pre-K/Kindergarten activity area is larger than that required for infants and toddlers and requires more space for running and larger, more complex equipment.

5-4.3.1 Accessibility.

Preschoolers/Pre-K/K are self-mobile wheelchair users. Design this activity area to provide maximum accessibility.

5-4.3.2 Storage.

Provide an individual 150 ft.² (13.9 m²) of storage per room in accordance with Chapter 5, General Design Criteria.

5-4.3.3 Play Areas and Equipment.

Provide the following play areas and equipment in this activity area:

- Wheeled toy path.
- Dramatic play area. Provide a larger, open-ended play superstructure offering many activities, but include elements such as playhouses, stages and props. Position these elements within the play area to allow the dramatic play to spill out and flow into other spaces. Place dramatic play materials and equipment in close proximity to each other and to wheeled vehicle paths.
- Construction area. Provide space for children to build freeform items and structures. Locate near storage for access to building materials, including blocks, wood boards, PVC pipe, paint, carpentry tools, ropes, and balls.

- Multi-purpose area.
- Swings. Locate swings along the perimeter of playground areas and provide adequate safety areas around swings to prevent conflicts with other activities. Use a flexible material for swing seats, such as the rubber belt-type, to avoid impact injuries. Hard seat swings are not allowed. Design swing top rails to not exceed 8 ft. (2.4 m) for children under four years old.
- Ball play area.
- Quiet activity space.
- Garden.
- Composite structure for climbing.
- Sand and water play. These areas should be adjacent to one another. Provide raised troughs for wheelchair accessibility to sand play area.
- Covered porch area. For use of musical devices, painting materials, chalkboards.

This Page Intentionally Left Blank

APPENDIX A REFERENCES

AMERICAN NATIONAL STANDARDS INSTITUTE

<http://ansi.org/>

ANSI Z97.1, *Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test*

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS

<http://www.ashrae.org>

ANSI/ASHRAE 62.1, *Ventilation for Acceptable Indoor Air Quality*

ARCHITECTURAL WOODWORK INSTITUTE

<http://www.awinet.org>

AWI Quality Standards Illustrated

ASTM INTERNATIONAL

<http://www.astm.org>

ASTM C1396//C1396M, *Standard Specification for Gypsum Board, Section 12, Gypsum Ceiling Board*

ASTM F1292, *Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment*

ASTM F1487, *Standard Consumer Safety Performance Specification for Playground Equipment for Public Use*

ASTM F1951, *Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment*

ASTM F2373, *Standard Consumer Safety Performance Specification for Public Use Play Equipment for Children 6 Months through 23 Months*

CARPET AND RUG INSTITUTE

<http://www.carpet-rug.org>

Green Label Program

INTERNATIONAL CODE COUNCIL

<http://www.iccsafe.org>

International Building Code (IBC)

MASTER PAINTER'S INSTITUTE (MPI)

<http://www.paintinfo.com>

Approved Products

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

<http://www.nfpa.org>

NFPA 101, *Life Safety Code*

NFPA 13, *Installation of Fire Sprinklers*

NFPA 72, *National Fire Alarm and Signaling Code*

NFPA 96, *Ventilation Control and Fire Protection for Commercial Cooking Operations*

NFPA 720, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment*

PETERSON FIELD GUIDES

A Field Guide to Venomous Animals and Poisonous Plants,

<http://www.houghtonmifflinbooks.com/peterson/>

UNITED STATES ACCESS BOARD

<http://www.access-board.gov/>

Architectural Barriers Act Accessibility Standard, <http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-aba-standards/aba-standards>

UNITED STATES CONSUMER PRODUCT SAFETY COMMISSION

<http://cpsc.gov/>

CPSC Public Playground Safety Handbook

16 CFR, Part 1201, *Safety Standard for Architectural Glazing*

UNITED STATES DEPARTMENT OF DEFENSE

<http://www.dtic.mil/whs/directives/>

DODI 6060.2, *Child Development Programs (CDPS)*

UNITED STATES DEPARTMENT OF DEFENSE, UNIFIED FACILITIES CRITERIA (UFC) PROGRAM

<http://dod.wbdg.org>

UFC 1-200-01, *General Building Requirements*

UFC 2-000-05N (P-80), *Facility Planning Criteria for Navy/Marine Corps Shore Installations*

UFC 3-101-01, *Architecture*

UFC 3-201-01, *Civil Engineering*

UFC 3-201-02, *Landscape Architecture*

UFC 3-401-01, *Mechanical Engineering*

UFC 3-410-01, *Heating, Ventilating and Air Conditioning Systems*

UFC 3-530-01, *Design: Interior and Exterior Lighting and Controls*

UFC 3-600-01, *Fire Protection Engineering For Facilities*

UFC 4-021-01, *Design and O&M: Mass Notification Systems*

UFC 4-021-02, *Electronic Security Systems*

UFC 4-022-03, *Security Fences and Gates*

UNITED STATES DEPARTMENT OF AGRICULTURE

<http://www.usda.gov>

USDA Program Aid Food Service Equipment Guide for Child Care Institutions

UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

<http://www.gpoaccess.gov/CFR/>

29 CFR 1910.1048, *Formaldehyde*

UNITED STATES DEPARTMENT OF THE NAVY

Public Law 104-106, (10 USC 88) *Military Family Act and Military Child Care Act*,
<http://www.access.gpo.gov>

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

<http://www.epa.gov>

EPA 402-R-93-071, *Map of Radon Zones*

EPA/402/R-92-014, *Radon Measurement in Schools*

EPA/625/R-92-016, *Radon Prevention in the Design and Construction of Schools and Other Large Buildings*

EPA 402-R-94-009, *Model Standards and Techniques for Control of Radon in New Residential Buildings*

APPENDIX B BEST PRACTICES

B-1 INTRODUCTION.

The following material identifies background information and other current, good design practices for CDCs. The designer is expected to review and interpret this guidance and apply the information according to the needs of the project.

B-2 DESIGNING FOR CHILDREN.

B-2.1 Stages of Development.

Human development research indicates that there are universal, predictable sequences of growth and change that occur in children during the first years of life. Each stage is characterized by behavior that is different from that of the preceding stage. Each stage also integrates all behaviors possible at previous stages, consolidates them, and prepares for development toward the next stage. Knowledge about child development, i.e., behaviors, activities, and materials for a specific age group, and understanding about individual children's needs, must be applied to design the most appropriate learning environment.

B-2.1.1 Infants.

Infancy, from birth to about 12 months, is the period when rapid changes of a child can be noted in terms of intellectual as well as physical development. This period is characterized by the sequential acquisition of abilities such as locomotion and grasping. An infant's behavior is centered on the manipulation of objects and performance of activities for the simple sensation of them.

B-2.1.2 Toddlers.

The major developmental changes from infancy to toddler-hood are the increase in physical capabilities, the use of language, and the ability to internalize thoughts. During this period a child establishes walking and running, begins to explore and experiment with the environment, and increases social experiences such as talking and seeking the attention of others. Personalities are manifested, as well as likes and dislikes. Play for these children will progress into fantasy and parallel play where, although often in groups, toddlers play without much interaction with other children.

B-2.1.3 Preschool.

The preschool age child, between three and five years, has increased control of fine motor skills, a large vocabulary, and often engages in cooperative play. These children are better able to concentrate and remember.

B-2.2 Anthropometric Guidelines.

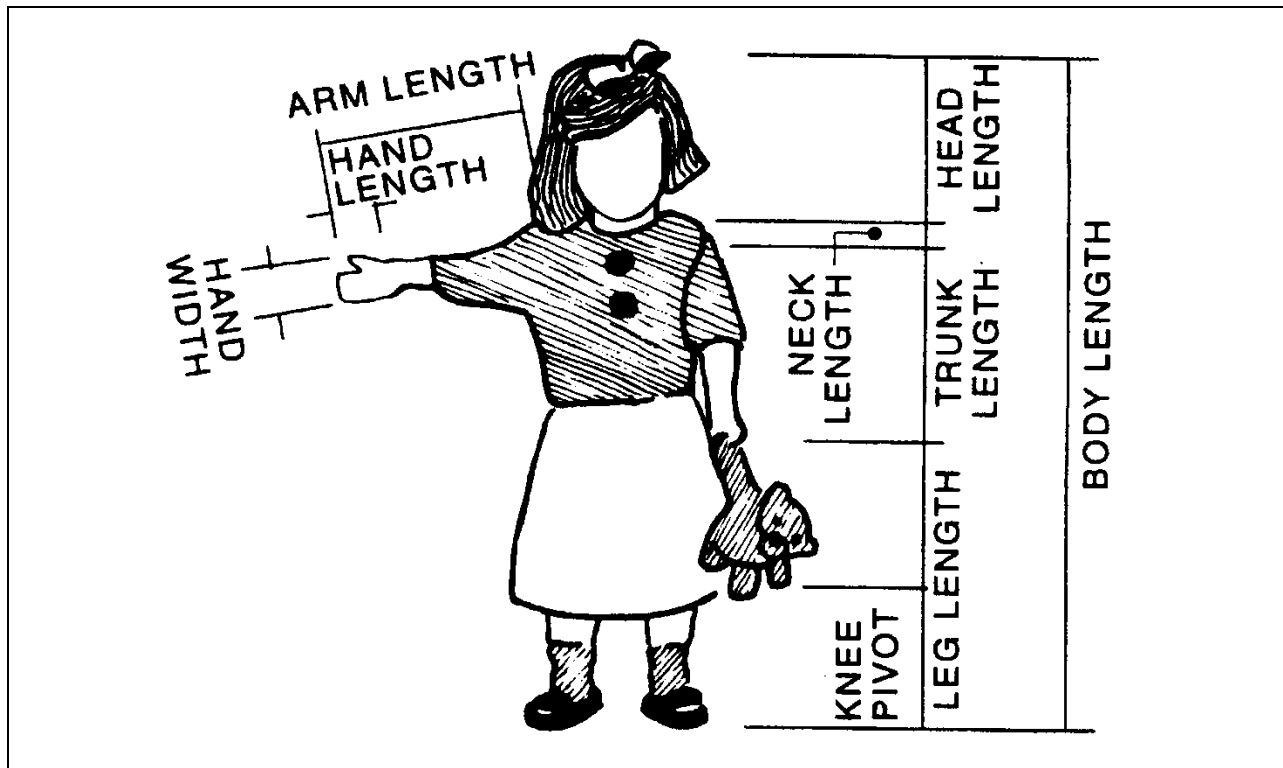
Average physical dimensions of children, according to their chronological age, are presented in Table B-1 and illustrated in Figure B-1. These figures do not apply to children with disabilities.

Table B-1. Anthropometrical Data

	Age In Years (The following dimensions represent averages)															
	Birth		0.5		1		2		3		4		5		6	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
Body Length	500	19.7	660	26	750	29.5	860	33.8	950	37.4	1040	41.9	1120	44.9	1170	46
Head Length	125	4.9	150	5.9	175	6.9	190	7.5	195	7.7	198	7.8	200	7.9	203	8
Head Width	97	3.8	119	4.7	132	5.2	140	5.5	142	5.6	145	5.7	145	5.7	145	5.7
Head Circumference	556	21.9	439	17.3	472	18.6	498	19.6	505	19.9	511	20.1	511	20.1	516	20.3
Trunk Length	211	8.3	295	11.6	320	12.6	345	13.6	363	14.3	381	15	389	15.3	399	15.7
Shoulder Width	150	5.9	178	7	203	8	224	8.8	236	9.3	246	9.7	254	10	262	10.3
Chest Circumference	330	13	437	17.2	475	18.7	508	20	521	20.5	528	20.8	538	21.2	554	21.8
Abdominal Circumference	N/A		411	16.2	445	17.5	462	18.2	470	18.5	516	20.3	518	20.4	521	20.5
Pelvic Width	81	3.2	117	4.6	130	5.1	145	5.7	157	6.2	175	6.9	185	7.3	196	7.7
Arm Length	193	7.6	254	10	305	12	371	14.6	417	16.4	424	16.7	503	19.8	533	21
Hand Length	N/A		N/A		97	3.1	107	4.2	119	4.7	124	4.9	127	5	130	5.1
Hand Width	36	1.4	41	1.6	43	1.7	48	1.9	51	2	51	2	56	2.2	58	2.3
Leg & Thigh Length	168	6.6	208	8.2	244	9.6	312	12.3	371	14.6	437	17.2	582	22.9	627	24.7
Sitting Height	N/A		447	17.6	488	19.2	538	21.2	572	22.5	597	23.5	622	24.5	635	25
Knee Width	38	1.5	N/A		64	2.5	66	2.6	69	2.7	69	2.7	69	2.7	71	2.8
Weight (Kg/lbs)	3.4	7.5	7.6	16.8	10	22	12.6	27.8	14.6	32.2	17.3	38.1	19.5	43	21	46.3
Knee Pivot to Floor	N/A		N/A		N/A		244	9.6	264	10.4	287	11.3	318	12.5	340	13.4

1 Anita R. Olds, Ph.D., ARCHITECTURAL PROTOTYPE DOCUMENT, Commonwealth of Massachusetts, 1987; Diffrient, N., Tilley, A.R., and Bardagly, J.C., HUMANSCALE 1/2/3 MANUAL, Cambridge: MIT Press, 1974; Society of Automotive Engineers, Inc., ANTHROPOMETRY OF U.S. INFANTS & CHILDREN, Michigan: 1975

Figure B-1. Anthropometric Dimensions



B-2.3 Choking Hazards.

See current edition of “Caring for Children” book (from American Academy of Pediatrics) which indicates choking guidelines and physical dimensions of children, according to their chronological age.

B-3 GENERAL DESIGN GUIDANCE.

B-3.1 Space Attributes.

The design effort must allow for, and be sensitive to, the differences in space attributes for children and those for adults as well as the differences in space usage by the children in different age groups. Information about the characteristics and activities of the children is included to provide rationale for aspects of design. The requirements and recommendations set forth in this FC are aimed at establishing optimal design, though, when appropriate, specific maximum or minimum requirements are stated. The center design must meet the needs of children, caregivers, administrators, and parents by performing the following functions:

- Support the staff’s care of children by creating safe and healthy environments that allow them to focus their efforts on the care and nurture of children. Provide features that encourage positive relationships between staff, children, and parents.

- Create an environment that comfortably accommodates the needs of well-qualified staff in order to attract and retain them.
- Facilitate family involvement in the center, particularly with the child's caregivers.
- Respond to local conditions, climate, and regional preferences in the design, while also considering the goals of the parents and sponsoring agency or agencies.
- Create a safe environment for both children and staff. Design the facility to ensure that children can not leave the facility without staff knowledge. Window and door criteria in Chapters 3 and 4 support this design objective.
- Create an appropriate, well thought-out and attractive child-oriented environment. The CDC should avoid a typical institutional atmosphere; it should be inviting and feel "home-like" for the child.
- Accommodate a child's scale, including how they will use the space, what they will see, and what kind of experience they will have, i.e., design through the eyes of a child.
- Provide an intriguing environment, but one devoid of overpowering colors, features and literal themes. Too much literalness can inhibit a child's creativity.
- Size the child activity rooms to accommodate the recommended group sizes and staff-to-child supervision ratios. Efficiently use space and provide strategically situated storage to accommodate effective supervision.
- Provide durable and cost effective materials and details. A CDC is used intensely; the design must be particularly sensitive to the life cycle cost of materials.
- Create a reasonably accommodating center for staff, parents and children in a cost effective manner.
- Provide for flexibility as the installations' demographic needs change.

B-3.2 Exterior Design.

Design CDCs to reflect a residential, non-institutional character. The physical environment supports the operational quality of a center and profoundly affects the behavior and development of children, as well as the efficient functioning and sense of well being in adult caregivers. The design must be sensitive to all environmental influences without compromising the functional program requirements. Accomplish this through sensitive architectural design that addresses the issues of environment, proportion, scale, forms, landscaping, and imagery that are important in this type of facility. Choose appropriate colors and materials that are complementary to installation plans. A pleasant functional environment influences the way caregivers react to the

children. Because this facility is focused on children, use a pallet intriguing and rich but not over-stimulating or “flashy.”

B-3.3 Interior Design.

Think of the center as a “home away from home” for the child. Design the interior spaces to dispel an institutional feeling, especially if it is treated in a home-like way. One example is circulation areas that allow stopping places for social interaction. Include elements such as neutral warm colors, low-level lighting, and soft residential-type furniture to create an inviting and reassuring reception for children. Provide offices with exterior windows to the extent possible. Use finishes that feel home-like. For instance, small-scale finish materials, such as bricks, are typically preferable to large pre-cast panels. The dimension of brick is more congruent with the size of a child and his or her home experience.

Use textures to help cue children in activity areas. Provide a variety of textures on surfaces within reach of children, especially for infants and toddlers. Soft textures relax children while harder finishes and surfaces make a space noisier and more chaotic. Utilize soft textures whenever possible to promote relaxed and quiet behavior. Hard textures are more appropriate for large motor activity areas. Using subtle, varied and natural textures is highly encouraged.

B-3.4 Signage.

Interior signage and graphics are an important part of making the facility inviting to children and adults. The use of color to code different age group modules is an excellent way to create interest, identify the module and help children with a visual orientation throughout the facility. Use colors, textures, and finish materials on the walls and/or floors to define circulation patterns. Use signs with words and symbols where appropriate.

B-3.5 Site Walkways.

Develop a successful transition from the parking lot to the building entry by providing interesting walks that pass through natural or landscaped areas, wherever possible, and which overlook engaging sights such as playgrounds. Consider a child's perspective in this development.

B-3.6 Vehicular Circulation.

Private vehicle drop-off areas are not permitted within the antiterrorism stand-off distances.

B-3.7 Landscaping.

B-3.7.1 Buffers.

Consider buffering play areas from traffic with earth berms at the site perimeter of 3 to 4 ft. (900 to 1200 mm) in height with a 3:1 slope. Also consider earth berms to screen

parking and service areas. Higher berms at the site perimeter could be used to provide acoustical protection from a noise source, but the height and slope will be determined by the site and noise source specifics. To maintain supervision and safety, higher berms are only permitted on one side of the site.

In windy climates, use trees as natural windbreaks. In hot, sunny climates, use trees to supplement the required shade structures (see Chapter 5, "Shade", for more on shade requirements).

B-3.7.2 Building Entry.

Provide colorful flowering plantings that are visually interesting throughout the seasons to create a sense of welcome for the children at the main entry.

B-4 INDIVIDUAL ROOM DESIGN GUIDANCE.

B-4.1 Entrance/Lobby/Reception.

The character of the main entry should communicate security and professionalism to the parents. At the same time, it must be fun and engaging to children. Pay attention to the design, materials, finishes, interesting volumes and colorful details.

B-4.2 Child Activity Rooms.

A prime objective of a successful design is to create conditions that allow caregivers and children to interact both verbally and non-verbally in large and small groups. To do this successfully, activity room space should not appear crowded. Include low tables and chairs and the space for caregivers to communicate individually with children. Define functional areas by furniture arrangements that vary depending upon the age group.

In order to maximize the amount of uninterrupted activity space and space devoted to childcare functions, design the circulation between the entrance and exits to be as direct as possible. Adjacent to circulation, it is appropriate to position tables and work surfaces, which tend to involve more crowded functions while retaining corners and floor area for more protected and nurturing activities.

The following practices result in the most optimum child activity room design:

- **Maintain corners.** Preserve room corners for child activity areas. Do not locate the room entrances/exits near a corner.
- **Efficiency.** Plumbing elements include child hand washing, toilets, adult sink with counter, diaper changing, and other sinks. Group the fixed elements to share a plumbing wall or minimize piping runs.

B-4.2.1 Infants.

Infants engage in crawling, walking, floor play, table play, and wheel toy play. Provide a safe, soft, stimulating environment in which babies can crawl, explore, and interact with

their caregivers. The infant room needs to be warm and nurturing in character. Because each infant may have a unique schedule, a variety of activities can take place in the infant room at any given time, ranging from playing, diaper changing, eating, sleeping, cuddling, and nursing. This variety of activities requires that quiet areas be separate from more active areas.

B-4.2.2 Pre-toddlers.

The pre-toddler activity room will hum with activity as pre-toddlers quickly move through their space, involved in all the activities available to them. Design an environment that is stimulating, offering the child a safe, yet warm and nurturing place to spend the day. Scale furnishings and equipment for this age group to encourage growth toward independence. Consider that pre-toddlers may nap more often than once a day. Pre-toddlers will gather at child-scaled tables for snacks and lunchtime. They can feed themselves with some assistance from their caregivers. In the pre-toddler open activity area, offer a range of opportunities for exploring and challenges in developing large motor skills. Design the activity area for running and cruising (movement through the space to view and select from a variety of activities) without disrupting children in other activities.

B-4.2.3 Toddlers.

Toddlers are busy experiencing their environment and developing essential motor skills as they take part in active play. In the toddler open activity area, offer a range of opportunities for exploring and challenges in developing these motor skills. Provide features such as wide access to portable platforms and generous, clear pathways that avoid sharp corners. Locate manipulative toys and materials on low, open shelving where the toddler can see and easily reach them. Though generally scale the space to child size, the activity room design must also permit caregiver access to all spaces.

B-4.2.4 Preschool.

Children at this age are actively exploring their environment; exercising large muscle skills by running, jumping, galloping, riding wheeled toys and playing various ball games. Provide a large amount of architecturally unrestricted space that caregivers and children can divide into smaller interest areas. Their level of skills enables them to take part in more advanced activities, requiring a greater number of interest areas configured for small groups of children in each area. Other activities for this group are dramatic play, music, painting, puzzles, manipulative play, block play, pre-math, reading, and writing. Preschool age children are involved in various projects, including simple food preparation, problem solving, science, and gardening.

B-5 BUILDING SYSTEMS GUIDANCE.

B-5.1 Fire Protection and Life Safety.

The following are requirements that are contained in other guidance but are frequently overlooked or misinterpreted:

- Provide tactile signage at each exit door and on interior signage to meet accessibility and life safety requirements.
- Meet sprinkler design density, design area, hose stream allowance, duration of supply, and piping materials required by UFC 3-600-01. Note that some system designs permitted by NFPA 13 are not permitted by UFC 3-600-01.
- Within the fire detection and alarm system, ensure that the visual notification appliances meet the minimum candela required for the space in which they are located including increased candela ratings in sleeping areas..
- Provide visual notification devices that flash in synchronization when more than two strobes are within an occupant's field of view. This feature reduces the potential for adverse reactions by persons subject to photosensitive epilepsy.
- Provide fire alarm reporting and mass notification system external communication capability in accordance with NFPA 72, UFC 3-600-01 and UFC 4-021-01 and that is compatible with the Installation's existing systems. Consult with the Installation since these may be sole source items.
- Keep the top 18 in. (460 mm) from the ceiling clear for sprinkler and smoke detector operation. This is often overlooked in storage rooms with built-in shelving or racks.

B-5.2 Radon.

Check the EPA's Map of Radon Zones (by state), EPA 402-R-93-071 (available from <http://www.epa.gov/>), to determine the radon priority area. Also, check the results of the Navy radon survey by contacting the NAVFACENGC COM Facilities Engineering Command (FEC) or Integrated Product Team (IPT) Air Pollution Engineer. Provide passive sub-slab depressurization systems for projects located in Priority Areas No. 1 (predicted average radon level is greater than 4/pCi/L). Change the system to active, if needed, based on follow-up testing. Check the following EPA documents available from the EPA Radon Information Center, (703) 356-5346:

- *EPA's Model Standards and Techniques for Control of Radon in New Residential Buildings, EPA 402-R-94-009.*
- *Radon Prevention in the Design and Construction of Schools and Other Large Buildings, EPA/625/R-92-016,*
- *Radon Measurement in Schools, EPA/402/R-92-014.*

B-6 OUTDOOR ACTIVITY AREA.

B-6.1 Play Areas and Equipment.

Turn over the sand to a depth of 18 in. (460 mm) annually and replace every two years.

B-6.2 Safety Background.

The major cause of playground injury is falling onto hard surfaces. Falls, head entrapments, strangulations, and contact with protrusions/projections on heavy swing seats account for most fatalities. Locate moving elements in areas away from natural child movement between zones.

This Page Intentionally Left Blank

APPENDIX C POISONOUS AND NON-POISONOUS PLANTS

Many popular house and garden plants are considered poisonous and can produce symptoms ranging from minor to severe. Table C-1 provides a non-comprehensive list of common plants that are known to be poisonous. Table C-2 provides a list of plants for which no evidence currently exists of a poisonous quality. These lists are provided by the Maryland Poison Center. Within the United States, check with local extensions of the US Department of Agriculture for more information about the nature of common plantings in specific locations. These lists are not intended to serve as a guide for plants to use or not use but are merely provided for informational purposes. See Chapter 3 for more information on landscaping and plant selection.

Table C-1. Common Poisonous Plants

Amaryllis	Jonquil
Azalea	Lantana
Barberry	Lily-of-the valley
Black locust	Mayapple
Boxwood	Mistletoe
Caladium	Morning Glory
Castor bean	Mountain laurel
Chinaberry	Narcissus
Chinese evergreen	Nephthytis/Arrowhead
Chrysanthemum	Nightshade family
Crown of thorns	Oak (acorns)
Daffodil	Oleander
Dumbcane/Dieffenbachia	Peace Lily
English ivy	Peony
Euonymous	Philodendron family
Four o'clock	Poison ivy/oak/sumac
Foxglove	Pokeweed
Fruit pits or seeds	Pothos
Gladiola	Privet
Holly	Rhododendron
Hyacinth	Snowball bush/Hydrangea
Iris	Water hemlock
Jerusalem cherry	Wisteria
Jimsonweed	Yew

Table C-2. Common Non-Poisonous Plants

African violet	Marigold
Begonia	Mulberry (ripe berries only)
Christmas cactus	Norfolk pine tree
Coleus	Peperomia
Corn plant	(spring) Petunia
Crocus	Poinsettia*
Dandelion	Prayer plant
Dogwood	Pyracantha/Firethorn
Dracaena	Rose
Easter lily	Rubber tree plant
Ferns	Sansevieria/Snake plant
Ficus*	Scheffiera*
Forsythia	Spider plant
Fuchsia	Swedish Ivy
Geranium	Tulip*
Hibiscus	Wandering Jew
Honeysuckle	Wax plant
Impatiens	Wild strawberry/Snakeberry
Jade plant	Zebra plant
Lilac	

* Sap may be irritating.

APPENDIX D SAMPLE FURNISHINGS, FIXTURES AND EQUIPMENT LISTS

D-1 FF&E SAMPLE LISTS.

The following list is suggested items, broken down by traditional contractor-provided FF&E and user-provided items.

Table D-1. Sample Furnishings and Equipment

Functional Area and Items	FF&E	User Provided
Administrative Areas		
Artwork	✓	
File cabinet (4 drawers or 5 drawers)	✓	
Office chair with arms, office desk, arm chair	✓	
Copy machine (floor model) and fax machine	✓	
Time clock, safe	✓	
Lounge table(s), chair	✓	
Coat rack, magazine rack(s)	✓	
Chair/table group(s), chair/couch group	✓	
Color TV(s) ,DVD(s), TV cart(s)	✓	
Clock	✓	
Cash register, calculator, computer/printer		✓
Wastebasket	✓	
Projector		✓
Interactive dry erase board		✓
Laminating machine	✓	
Book shelves	✓	
Credenza	✓	
Microwave oven, coffee maker, refrigerator, washers and dryers	✓	
Small refrigerator with lock for medications	✓	
Vacuum cleaner		✓
Maintenance Cart	✓	
Storage unit, shelving units	✓	
Infant CAR		
Cribs/mattresses	✓	
Crib sheets and blankets		✓
Adult chairs with arms	✓	
Diaper/trash containers	✓	
Music player, music boxes		✓
Low shelves	✓	
High chairs	✓	
Table(s), cube/chairs	✓	
Infant climbers with fall protection	✓	

Table D-1. Sample Furnishings and Equipment

Functional Area and Items	FF&E	User Provided
Pull toys and mobiles		✓
Banners, pictures/posters, and artwork		✓
Clock, refrigerator (under counter, 5 CF minimum)	✓	
Air purifier		✓
Diaper changing pads		✓
Bibs, sippy cups		✓
Activity boxes		✓
Nesting /stacking toys		✓
Music collections		✓
Puzzle racks, bins		✓
Pound boards, sorting boxes, balls		✓
Books		✓
Puppets		✓
Area rug(s)	✓	
Water play set	✓	
Smocks		✓
Tactile materials, bristle blocks		✓
Bye bye buggy	✓	
Pre-toddler CAR		
Cots	✓	
Cot sheets and blankets		✓
Toddler chairs, round tables, rectangular tables	✓	
Double sided, low shelving, book shelves	✓	
Sand/water table	✓	
Climber playfoam	✓	
Art easels	✓	
Fence easels	✓	
Art smocks		✓
Play kitchen, play dishes, play food, play fruit, cultural food		✓
Cook set(s)	✓	
Bye bye buggy,	✓	
Tricycles		✓
Adult chairs with arms, couch/chair	✓	
Trash containers	✓	
Music player		✓
Sand toys, push pull toys, soft blocks		✓
Puzzles, interlocking manipulatives		✓
Cars, trucks, dolls, doll carriages		✓
Banners, pictures/posters, and artwork		✓
Filing cabinet, clock, refrigerator	✓	

Table D-1. Sample Furnishings and Equipment

Functional Area and Items	FF&E	User Provided
Air purifier		✓
Diaper changing pads		✓
Activity boxes		✓
Nesting/stacking toys		✓
Sippy cups, Bibs		✓
Music collections		✓
Puzzle racks		✓
Pound boards		✓
Rhythm instruments		✓
Hats		✓
Books		✓
Area rug(s)	✓	
Water play set	✓	
Doll high chair(s), doll bed(s), doll house(s)		✓
Science set(s), aquarium(s), magnets, stethoscope(s), and kaleidoscopes		✓
Pegs, tactile materials, bristle blocks		✓
Beads and lace		✓
Toddler CAR		
Cots	✓	
Cot sheets and blankets		✓
Toddler chairs, round tables, rectangular tables	✓	
Double sided, low shelving, book shelves	✓	
Sand/water table	✓	
Climber playfoam	✓	
Art easels	✓	
Art smocks		✓
Play kitchen, play dishes, play food, play fruit, cultural food		✓
Bye bye buggy	✓	
Tricycles		✓
Soft blocks		✓
Adult chairs with arms, couch/chair	✓	
Trash containers	✓	
Music player and music boxes		✓
Sand toys, push pull toys		✓
Puzzles, interlocking manipulatives		✓
Cars, trucks, dolls, doll carriages		✓
Banners, pictures/posters, and artwork		✓
Filing cabinet	✓	
Fence easels	✓	

Table D-1. Sample Furnishings and Equipment

Functional Area and Items	FF&E	User Provided
Clock	✓	
Air purifier		✓
Diaper changing pads		✓
Bibs, sippy cups		✓
Activity boxes		✓
Nesting/stacking toys		✓
Music collection		✓
Puzzle racks		✓
Pound boards, sorting boxes, balls		✓
Rhythm instruments		✓
Dress ups, hats		✓
Books		✓
Puppets		✓
Area rug(s)	✓	
Water play set	✓	
Doll high chair(s), doll bed(s), doll house(s)		✓
Cook set(s)	✓	
Science set(s), aquarium(s), magnets, stethoscope(s), and kaleidoscopes		✓
Pegs, tactile materials, bristle blocks		✓
Beads and lace		✓
Preschool/Pre-K/K CAR		
Cots	✓	
Cot sheets and blankets		✓
Chairs, tables, couch/chair	✓	
Double sided shelves, low shelving, book shelves	✓	
Sand/water table	✓	
Sand toys		✓
Art easels	✓	
Art smocks		✓
Play kitchen, play dishes, play food, play fruit, cultural food		✓
Tricycles		✓
Workbench(s)	✓	
Trash containers	✓	
Music player		✓
Doll carriages, doll high chair(s), doll bed(s), doll house(s)		✓
Puzzles		✓
Cars, trucks, dolls		✓
Clock, refrigerator	✓	
Dress ups, hats		✓

Table D-1. Sample Furnishings and Equipment

Functional Area and Items	FF&E	User Provided
Books		✓
60 puppets		✓
Area rug(s)	✓	
Woodwork set(s), water play set(s)	✓	
Cook set(s)	✓	
Science set(s), aquarium(s), magnets, stethoscope(s), kaleidoscopes		✓
Pegs, tactile materials, bristle blocks		✓
Beads and lace		✓
File cabinet	✓	
Parachutes		✓
Playhouses, picnic tables	✓	

This Page Intentionally Left Blank

APPENDIX E SAMPLE KITCHEN EQUIPMENT

E-1 KITCHEN EQUIPMENT LISTS BY FACILITY SIZE.

The following are equipment lists for small, medium and large kitchens. The kitchen must be designed by a qualified kitchen designer – see Chapter 3 for qualifications.

The CDC kitchens are designed to support short term storage, warming and food preparation. Delivery of supplies arrives from exterior of the building and trash is removed to a dumpster along this route. Trained staff prepares and wash-up. One food delivery utility cart for each CAR is loaded with food and beverage and transported to each classroom where it remains. When meal service is complete, the cart is returned to the kitchen for wash-up and storage.

Where items in equipment lists are indicated as “Optional”, Designer of Record must consult with program authorities in Chapter 1 to confirm if item is required.

E-1.1 Small CDC.

- 1 Food delivery utility carts (NSF approved or equivalent standards), with three shelves of minimum shelf size 18-in. x 26-in. (455 mm x 660 mm) and overall maximum height of 34 in. (865 mm)
 - 2 Stainless steel wall shelf over food delivery utility carts at 12 in. (305 mm) deep *
 - 3 Trash receptacle of minimum 44 gallons (167 L) on mobile trash receptacle dolly
 - 4 Fire protection system panel *
 - 5 Stationary shelving units (NSF approved or equivalent standards) for dry storage
 - 6 Reach-in freezer, single door, of 19 ft.³ (.54 m³) minimum capacity (in MILCON)
 - 7 Hand sink, wall mounted with support brackets at each entrance *
 - 8 Optional slicer (NSF approved or equivalent standards)
 - 9 Food preparation stainless steel work table with turned-up rolled rim edges, 6-in. (150 mm) high back splash, drain boards, work sinks *
 - 10 Stainless steel wall shelf over prep work sinks *
 - 11 Stainless steel wall shelf over prep work surface *
 - 12 Reach-in refrigerator, two door, of 46 ft.³ (1.3 m³) minimum capacity for snacks *
 - 13 Optional mobile stainless steel mixer stand
 - 14 Optional mixer, 12 qt. (11.4 L) (NSF approved or equivalent standards)
 - 15 Cook's and snack preparation island stainless steel work table with counter work sink, under shelf, double sided over shelf *
 - 16 Ceiling mounted pot rack *

 - 17 Shelving unit (NSF approved or equivalent standards) for service dishes
 - 18 Reach-in refrigerator, two door, of 46 ft.³ (1.3 m³) minimum capacity *
 - 19 Stainless steel work table with cross bracing on back and sides *
 - 20 Optional mobile food warmer with universal rack slides and maximum height of 34.25 in. (870 mm) (NSF approved or equivalent standards) *
 - 21 Stainless steel shelf over cook's work table for spices, utensils and miscellaneous items *
 - 22 Optional stainless steel wall shelf adjacent to the griddle for spices, utensils and miscellaneous items (may be part of restaurant range) *
 - 23 Exhaust hood, low volume high velocity (remote make-up air, if necessary) *
 - 24 Fire protection system, as required *
 - 25 Restaurant range (48 in. (1220 mm) left to right) with convection oven base and cooking surface consisting of four burners and 24-in. (610-mm) wide griddle *
 - 26 Shelving unit (NSF approved or equivalent standards) for clean pots and pans *
 - 27 Pot and pan ware washing stainless steel table with turned-up rolled rim edges, 10 in. (255 mm) high back splash, three pot and pan washing sinks, drain boards, drain board mounted garbage disposal, vacuum breaker and open base with legs and cross bracing *
 - 28 Optional stainless steel, wall-mounted pot rack and wall shelf *
 - 29 Optional garbage disposal with back splash mounted pre-rinse *
 - 30 Optional wall-mounted stainless steel dish rack shelf (42 in. (1065 mm) left to right minimum) *
 - 31 Optional push-thru dishwasher (NSF approved or equivalent standards) *
 - 32 Stainless steel shelving unit (NSF approved or equivalent standards) for clean dishes, pitchers, cups *
 - 33 Office desk, single pedestal
 - 34 Office chair
 - 35 Wall shelf over desk *
 - 36 Dry erase/cork board (near office desk)
- * Built-in equipment

E-1.2 Medium CDC.

- 1 Food delivery utility carts (NSF approved or equivalent standards), with three shelves of minimum shelf size 18 in. x 26 in. (455 mm x 660 mm) and overall maximum height of 34 in. (865 mm)
- 2 Optional stainless steel wall shelf over food delivery utility carts (12 in. (305 mm) deep) *
- 3 Trash receptacle of minimum 44 gallons (167 l) on mobile trash receptacle dolly
- 4 Fire protection system panel *
- 5 Stationary shelving units (NSF approved or equivalent standards) for dry storage
- 6 Reach-in freezer, single door, of 19 ft.³ (.54 m³) minimum (in MILCON)
- 7 Hand sinks, wall mounted with support brackets at each entrance *
- 8 Optional slicer (NSF approved or equivalent standards)
- 9 Food preparation stainless steel work table with turned-up rolled rim edges, 6-in. (150-mm) high back splash, drain boards, work sinks *
- 10 Optional garbage disposal, control panel and back splash mounted pre-rinse *
- 11 Stainless steel wall shelf over prep work surface *
- 12 Stainless steel wall shelf over prep work surface *
- 13 Reach-in refrigerator, two door, of 46 ft.³ (1.3 m³) minimum for snacks *
- 14 Optional mobile stainless steel mixer stand
- 15 Optional mixer, 12 qt. (11.4 l) (NSF approved or equivalent standards)
- 16 Cook's and snack preparation island stainless steel work table with counter work sink, under shelf, double sided over shelf *
- 17 Ceiling mounted pot rack *
- 18 Shelving unit (NSF approved or equivalent standards) for service dishes
- 19 Dual temperature reach-in refrigerator/freezer with two full-length doors each of 19 ft.³ (.54 m³) minimum capacity *
- 20 Stainless steel work table with cross bracing on back and sides *
- 21 Optional mobile food warmer with universal rack slides and maximum height of 34.25 in. (870 mm) (NSF approved or equivalent standards) *
- 22 Stainless steel shelf over cook's work table for spices, utensils and miscellaneous items *
- 23 Optional stainless steel wall shelf adjacent to griddle for spices, utensils and miscellaneous items (may be part of restaurant range) *
- 24 Exhaust hood, low volume high velocity (remote make-up air, if necessary) *
- 25 Fire protection system, as required *
- 26 Optional griddle, (36 in. (915 mm) left to right) with convection oven base *
- 27 Six burner Range (36 in. (915 mm) left to right) with convection oven base *
- 28 Shelving unit (NSF approved or equivalent standards) for clean pots and pans
- 29 Pot and pan ware washing stainless steel table with turned-up rolled rim edges, 10-in. (255-mm) high back splash, three pot and pan washing sinks, drain boards, drain board mounted garbage disposal, vacuum breaker and open base with legs and cross bracing *
- 30 Optional stainless steel wall mounted pot rack and wall shelf *
- 31 Optional garbage disposal with back splash mounted pre-rinse *
- 32 Optional wall mounted stainless steel dish rack shelf (42 in. (1065 mm) left to right minimum) *
- 33 Optional push-thru dishwasher (NSF approved or equivalent standards) *
- 34 Stainless steel shelving unit (NSF approved or equivalent standards) for clean dishes, pitchers, cups *
- 35 Office desk, single pedestal
- 36 Office chair
- 37 Wall shelf over desk *
- 38 Vertical file, four drawer
- 39 Mobile shelving units (NSF approved or equivalent standards) for walk-in refrigerator

- 40 Walk-in refrigerator and medium temperature refrigeration system, capacity coordinated with installation and program managers *
- 41 Walk-in freezer, capacity coordinated with installation and program managers *
- 42 Dry erase/cork board (near office desk)
- * Built-in equipment

E-1.3 Large and Extra Large CDC.

- 1 Food delivery utility carts (NSF approved or equivalent standards), with three shelves of minimum shelf size 18 in. x 26 in. (455 mm x 660 mm) and overall maximum height of 34 in. (865 mm)
- 2 Optional stainless steel wall shelf over food delivery utility carts at 12 in, (305 mm) deep *
- 3 Trash receptacle of 44 gallons (167 l)) minimum capacity on mobile trash receptacle dolly
- 4 Fire protection system panel *
- 5 Stationary shelving units (NSF approved or equivalent standards) for dry storage
- 6 Hand sinks, wall mounted with support brackets at each entrance *
- 7 Mobile, stainless steel slicer stand
- 8 Optional slicer (NSF approved or equivalent standards)
- 9 Food preparation stainless steel work table with turned-up rolled rim edges, 6-in. (150-mm) high back splash, drain boards, work sinks *
- 10 Optional garbage disposal, control panel and back splash mounted pre-rinse *
- 11 Stainless steel wall shelf over prep work sinks and drain boards *
- 12 Reach-in refrigerator, two door, of 46 ft.³ (1.3 m³) minimum capacity for snacks *
- 13 Mobile stainless, snack work table with utensil drawer, under shelf and locking casters
- 14 Optional mobile stainless steel mixer stand
- 15 Optional mixer, 20 quart (18.9 l) (NSF approved or equivalent standards)
- 16 Cook's island stainless steel work table with counter work sink, utensil drawer, under shelf, double sided over shelf *
- 17 Ceiling mounted pot rack *
- 18 Shelving unit (NSF approved or equivalent standards) for service dishes
- 19 Single section, dual temperature reach-in refrigerator/freezer with two full length doors each of 19 ft.³ (.54 m³) minimum capacity *
- 20 Stainless steel work table with cross bracing on back and sides *
- 21 Optional mobile food warmer with universal rack slides and maximum height of 34.25 in. (870 mm) (NSF approved or equivalent standards) *
- 22 Stainless steel shelf over cook's work table for spices, utensils and miscellaneous items *
- 23 Exhaust hood, low volume high velocity (remote make-up air, if necessary) *
- 24 Fire protection system, as required *
- 25 Double full size convection ovens with cook and hold feature and glass doors *
- 26 Optional tilting griddle/braising pan with 43 in. x 24 in. (1090 mm x 610 mm) typical cooking surface *
- 27 Optional stainless steel floor trough for tilting/braising pan *
- 28 Optional pot filler faucet. Mounted on wall or as an option with tilting griddle/braising pan *
- 29 Eight burner range (48 in. (1220 mm) left to right) with convection oven base *
- 30 Optional stainless steel wall shelf adjacent to the range for spices, utensils and miscellaneous items (may be a range option item) *
- 31 Shelving unit (NSF approved or equivalent standards) for clean pots and pans
- 32 Pot and pan ware washing stainless steel table with turned-up rolled rim edges, 10 in. (255 mm) high back splash, three pot and pan washing sinks, drain boards, drain board mounted garbage disposal, vacuum breaker and open base with legs and cross bracing *
- 33 Optional stainless steel wall mounted pot rack and wall shelf *
- 34 Optional garbage disposal with back splash mounted pre-rinse *
- 35 Soiled dish table with cone/drain board mounted garbage disposal and open base *
- 36 Wall-mounted stainless steel dish rack shelf (42 in. (1065 mm) left to right minimum) *
- 37 Dish washer with booster heater (NSF approved or equivalent standards) *
- 38 Clean dish table with open base *

- 39 Wall-mounted stainless steel dish rack shelf over clean dish table (42 in. (1065 mm) left to right minimum) *
 - 40 Stainless steel shelving unit (NSF approved or equivalent standards) for clean dishes, pitchers, cups *
 - 41 Office desk, double pedestal
 - 42 Office chair
 - 43 Wall shelf over desk *
 - 44 Vertical file, four drawer
 - 45 Combined walk-in refrigerator/freezer unit and medium and low temperature refrigeration systems *
 - 46 Mobile shelving units (NSF approved or equivalent standards) for walk-in refrigerator/freezer
 - 47 Dry erase/cork board (near office desk)
- * Built-in equipment

APPENDIX F GLOSSARY

F-1 ACRONYMS AND ABBREVIATIONS.

ABA	Architectural Barriers Act
ACP	Acoustical Ceiling Panel
AFCEC	Air Force Civil Engineer Center
AFF	Above Finished Floor
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AV	Audiovisual
AWI	Architectural Woodwork Institute
BIA	Bilateral Infrastructure Agreement
C	Celsius
CAR	Child Activity Room
CATV	Cable television
CCTV	Closed circuit television
CDC	Child Development Center
CDH	Child Development Home
CDP	Child Development Program
CFM	Cubic feet per minute
CFR	Code of Federal Regulations
CNIC	Commander of Naval Installations Command
CO	Carbon monoxide
CPSC	US Consumer Product Safety Commission
DB	Design-Build
dBA	Decibels
DoD	Department of Defense

DoDI	Department of Defense Instruction
DVD	Digital Video Disc
EPA	Environmental Protection Agency
F	Fahrenheit
FC	Facilities Criteria
FCC	Family child care
FDC	Fire Department Connection
FEC	Facilities Engineering Command
FF&E	Furnishings, Fixtures and Equipment
FRP	Fiberglass Reinforced Plastic
Ft	Foot (feet)
GFA	Gross Floor Area
GFCI	Ground-Fault Circuit Interrupter
HAZMAT	Hazardous Materials
HNFA	Host Nation Funded Construction Agreements
HVAC	Heating, ventilating, and air conditioning
IBC	International Building Code
In	Inch(es)
IPT	Integrated Product Team
K	Kindergarten
L/s	liters per second
m	meter(s)
mm	millimeter(s)
MILCON	Military construction
MPI	Master Painters Institute

NAVFAC or NAVFACENGC.COM. Naval Facilities Engineering Command.

NFA	Net Floor Area
NFPA	National Fire Protection Association
OPNAV	Chief of Naval Operations
PA	Public address
PVC	Polyvinyl Chloride
RH	Relative humidity
RFP	Request for Proposal
SF	Square Feet
SOFA	Status of Forces Agreement
STC	Sound Transmission Class
TR	Tamper Resistant (electrical outlet)
TV	Television
UAS	Uninterrupted Activity Space
UFC	Unified Facilities Criteria
USDA	United States Department of Agriculture
USMC	United States Marine Corps
VCR	Video Cassette Recorder
VCT	Vinyl Composition Tile
VOC	Volatile Organic Compounds

F-2 DEFINITION OF TERMS.

Capacity: Also Operational Capacity. The total number of children that may be cared for at any one time. See also Group and Ratio.

Child Activity Room: the architecturally defined areas in which care is provided for each group of children.

Caregiver: Individuals providing direct care services to children in CDCs. The term, as used in this document, does not denote level of education, training, or staff status. Caregivers include head teachers, assistant teachers, aides, and all others who interact with children on a routine basis for a major part of each day.

Caring for our Children: The National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs.

Cubby: A relatively small storage component/shelving system, usually open to one side and can be built in or premanufactured.

Decibels: A unit of measurement for the relative intensity of sound. From 0 (barely perceptible) to 130 (painfully loud), on average.

Gross Floor Area: The total area of all floors of a building including main building lobbies, elevator shafts, egress stairwells and exterior partitions measured to the exterior side of the exterior wall.

Group: The maximum number of children, as determined by age group, who are cared for in the same self-contained activity room. See also Capacity and Ratio.

Infant: A child 6 weeks through 12 months of age.

Mixed-age Group: A group of children in a child development program drawn from more than one age group.

Net Floor Area: The amount of occupiable space to accommodate a space requirement.

Outdoor Activity Area: the exterior, fenced space adjacent to the building that provides for supervised outdoor play activities for the child occupants of the building. It is not simply a place for “recess” but is designed to support a program of activities and be conducive to creative play. It serves as an extension of the interior activity room space.

Parents: For the purposes of this FC, “parent” is understood to include legal guardians responsible for a child.

Playground: Playground may refer to the age-appropriate areas within the outdoor activity area. The outdoor activity area is divided into at least three play areas: one for infants, one for toddlers, and one for Preschoolers/Pre-K/K. Pre-toddlers will use the

infant play area or the toddler play area, as appropriate. The term playground may also refer generically to the outdoor activity area or any of its components.

Preschool Child: A child who is 3 to 5 years old and who does not attend kindergarten or a higher grade.

Pre-toddler: A child between the ages of 12 through 24 months. This age group may also be classified as toddlers, but in this document the category has been broken down into pre-toddler (ages one to two) and toddler (ages two to three). (See Toddler.)

Primary Caregiver: Principal person identified to be responsible for an assigned group of children.

Ratio: The ratio of caregivers to children, i.e., the number of children one caregiver may be responsible for, varying by age of children. See also Group and Capacity.

School-age Child: A child who is six years of age or older or who attends kindergarten or higher.

Toddler: A child between the ages of 24 and 36 months. Children as young as 12 month old may also be classified as toddlers, but in this document the category has been broken down into pre-toddler (12 – 24 months) and toddler (24 – 36 months). (See Pre-toddler.)

Toilet: This refers to the room or space and includes both the water closet and the lavatory (sink and counter)

Uninterrupted Activity Space: space in a care area used exclusively for activity. It excludes all fixed equipment and furnishings (i.e. the diaper changing station, the food preparation station, the toileting areas, storage areas, etc.) and any dedicated circulation space.